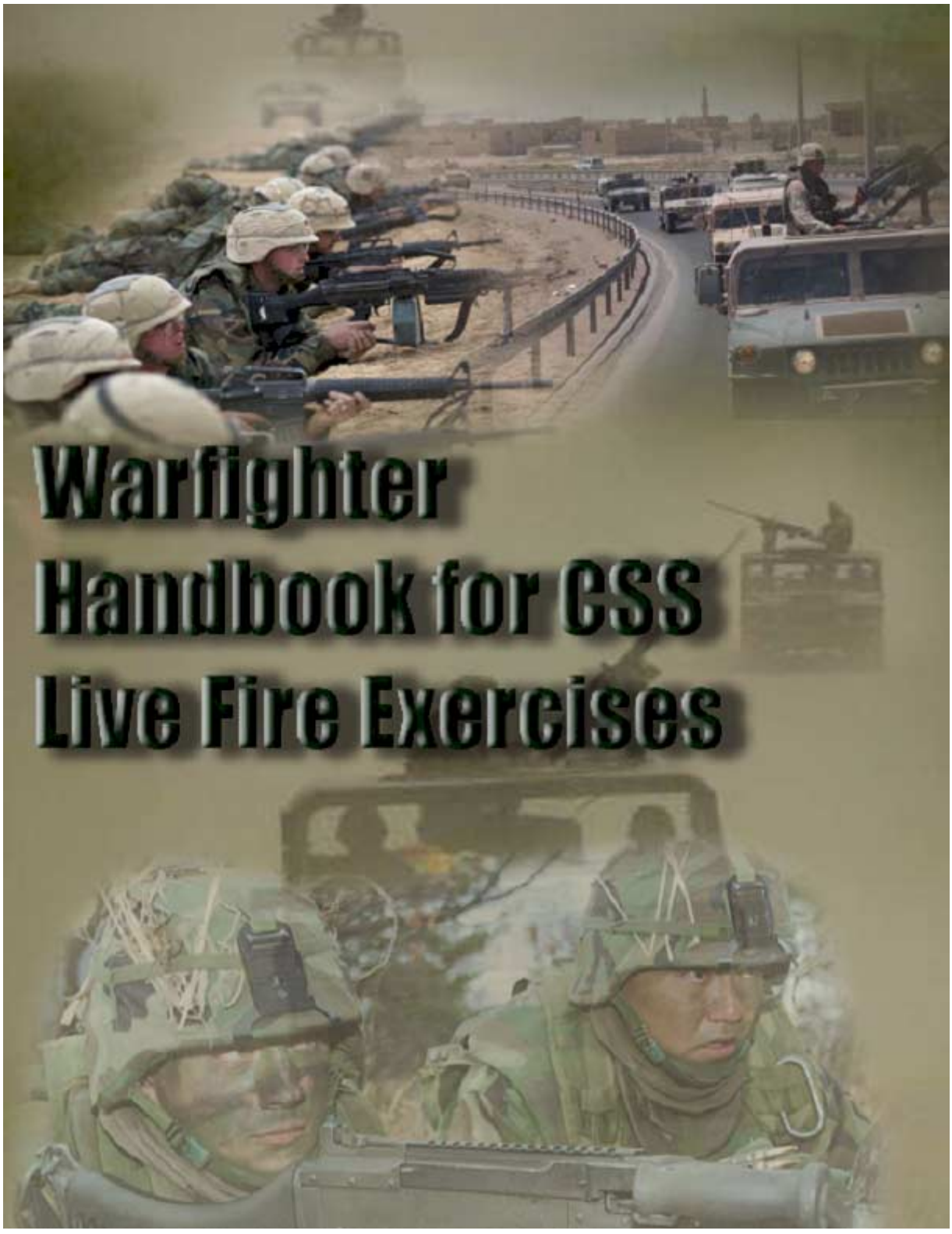

23 January 2004
Combined Arms Support Command
Fort Lee, Virginia

Soldier's Creed

I am an American Soldier.

I am a Warrior and a member of a team. I serve the people of the United States and live the Army Values.

I will always place the mission first.

I will never accept defeat.

I will never quit.

I will never leave a fallen comrade.

I am disciplined, physically and mentally tough, trained and proficient in my warrior tasks and drills. I always maintain my arms, my equipment and myself.

I am an expert and I am a professional.

I stand ready to deploy, engage, and destroy the enemies of the United States of America in close combat.

I am a guardian of freedom and the American way of life.

I am an American Soldier.

WARFIGHTER HANDBOOK FOR COMBAT SERVICE SUPPORT LIVE FIRE EXERCISES

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Preface

This publication is designed to provide the CSS unit commander and subordinate leaders a document to assist them in designing, developing, coordinating, and executing live fire exercises. Lessons learned during Operation Iraqi Freedom once again revealed that CSS personnel and units faced an increased threat posed by asymmetric forces operating throughout the depth of the battlespace. The contemporary operating environment confirms that such attacks against static and moving CSS elements will increase as the enemy chooses to attack perceived weaknesses rather than confront the superior firepower of American combined arms teams. CSS units must be able to defend their logistics bases and convoy elements against hostile regular and paramilitary forces. To prepare for the contemporary battlespace, CSS units must incorporate realistic live fire training exercises as a crucial part of a unit's training strategy.

This publication is for use by leaders of CSS units and should be used in conjunction with the unit mission essential task list (METL), mission training plan (MTP), soldier training plans (STPs) and Combined Arms Training Strategy (CATS). This handbook provides a systematic, battle-focused, performance oriented training strategy to plan, execute, and assess unit tactical proficiency to achieve maximum training results with limited time and resources. This publication is not all-inclusive. Leaders should review other references as appropriate.

The focus of this publication is on training the trainer to conduct measurable and realistic live fire exercises at company level for teams, sections, and platoons. The publication also provides resources required to conduct live fire exercises.

All Soldiers are responsible for safety during a LFX. Range control supports the commander in the conduct of realistic live fire exercises unhampered by artificial safety restrictions. The primary concern of range control personnel is that no rounds exit the training area.

The proponent for this publication is the Training Directorate, US Army Combined Arms Support Command, Multifunctional Logistics Training Division, ATTN: ATCL-AL, Fort Lee, Virginia 23801.

Unless this publication states otherwise, masculine nouns and pronouns do not refer exclusively to men.

Introduction

"Old rules no longer apply. It is not business as usual. This State of War requires us to challenge old paradigms, to be flexible and adaptable to face a cunning and devious enemy"

General Peter O. Shoomaker
CSA

To be successful in the battlespace, CSS personnel and units must be able to **support and fight!** The unit commander must know the capabilities of his weapons and Soldiers. He or she should use live fire exercises to train under combat-like conditions. Live fire exercises closely replicate battlespace conditions and provide significant advantages such as:

- Develop and sustain the warrior ethos and unit esprit de corps.
- Provide Soldiers with a realistic experience of the danger, confusion and speed of combat operations.
- Hone battle drills and tactics, techniques and procedures (TTP) required in the battlespace.
- Require demonstrated tactical proficiency at lower echelons (team/squad/section) before LFXs are conducted at higher echelons.

The lane-training concept is used throughout this publication to plan, coordinate, conduct, and assess live fire exercises. The rigor of the lane training process enables units to quickly and efficiently attain proficiency in tactical tasks (Soldier, leader individual skills, collective tasks and battle drills) while training in a simulated operational environment (major theater of war, stability operation, support operation). Lane training techniques and principles enable training to be effectively and **safely** structured, supported, and assessed by limiting the number of tasks, time, terrain, facilities, or other resources involved.

Live fire training using lane training principles and techniques enables leaders to:

- Conduct initial, developmental, sustainment, refresher, and enhancement training and assessment for METL-driven individual tasks, collective tasks, and battle drills.
- Train similar units to the Army standard, simultaneously or sequentially, using mission related scenarios.
- Test, standardize, and train battle drills and TTP.
- Develop and refine tactical standing operating procedures that adequately support the METL.
- Efficiently control training objectives (tasks, conditions, and standards) during training and formal and informal assessment).
- Vary training conditions to the training level of the unit (initial, refresher, and sustainment) and to support prerequisite training and retraining.
- Integrate individual skills, leader skills, collective tasks, and battle drills into unit training programs.
- Achieve proficiency on difficult, infrequent, or teamwork-based tasks.
- Achieve maximum results when training Soldiers and units to Army standards while efficiently leveraging limited resources (land, facilities, personnel, and equipment).

Chapter 1

Training Methodology for Live Fire Exercises

SGT William W. Seay was a driver of a 62d Transportation Company convoy when it was ambushed in Vietnam. As the main element of the convoy entered the ambush killing zone, it was hit with RPG, machine gun, and automatic weapons fire. SGT Seay dismounted and as the enemy assaulted the convoy, he opened fire killing two of the enemy. He spotted a sniper in a tree and killed him. When an enemy grenade was thrown under an ammunition truck, he left protective cover, exposing himself to enemy fire, and threw it back into the midst of the enemy, killing four more and saving the lives of Soldiers around him. Another enemy grenade landed near his position and again he left his position and hurled the grenade into the enemy's ranks. Wounded in his right wrist while returning to his position, he continued to give encouragement to those around him. Spotting three more enemy soldiers who had penetrated the unit position, SGT Seay stood up and fired his rifle with his left hand, killing all three and saving the lives of the other men at his location.

1-1. Train the Way You Fight. The Army's training philosophy is to train the way you fight. LFX support this philosophy by:

- Establishing a maneuver range where the leader can select the direction and method of fires based on the contemporary operating environment and mission, enemy, terrain, time, troops available and civilian considerations (METT-TC).
- Integrating all organic individual and crew served weapons systems and personnel.
- Exercising all combat related activities (pre-combat inspections, reaction to enemy contact, break contact, use of pre-convoy checklists, reaction to convoy ambush, withdrawal under fire, development of sector sketches and range cards, use of final protective fires, use of the quick reaction force, combat life saver functions, processing prisoners of war, casualty collection and evacuation, calls for fire, and emplacement of obstacles).
- Using realistic targetry and return fire (simulators).

1-2. The Warrior Ethos. Every Soldier is a rifleman. CSS leaders at all levels must renew their efforts to ensure that Soldiers understand and embody the Warrior Ethos. The Warrior Ethos (Table 1-1) is the sum of the distinguishing characteristics that describes what it means to be a Soldier; committed and prepared to close with and kill or capture the enemy.

Table 1-1. Warrior Ethos

WARRIOR ETHOS
PUT THE MISSION FIRST
REFUSE TO ACCEPT DEFEAT
NEVER QUIT
NEVER LEAVE A FALLEN COMRADE BEHIND

1-3. The Training Challenge. Personnel turnover, key-leader turnover, high OPTEMPO, and new equipment and systems fielding present a demanding set of challenges. Resources for training are constrained and compete with other resource demands. All too often the CSS

commanders have been caught between the proverbial "rock and a hard place." "How can I support my customers on a daily basis and still find time to train my Soldiers to be technically **and** tactically proficient?" However, time and time again, history has demonstrated to us that Soldiers untrained in basic individual and small unit combat skills quickly become casualties on the battlefield. When CSS Soldiers and units deploy into an operational area without the requisite tactical skills, the unit commander risks losing many of the soldiers under his command to hostile action, and potentially jeopardizing the mission of the force. **No Soldier should become a casualty in the battlespace because they were not properly trained!**

1-4. Live Fire Training Process. Live fire training is implemented using a systematic lane training process, which is part of the battle-focused training process. Leaders should review Army and installation safety regulations and doctrine and training manuals before conducting a live fire exercise (See Figure 1-1). Perimeter Defense Live Fire Exercises and Convoy Ambush Live Fire Exercises are not exercises for untrained units. Infantry units train for days and sometimes weeks to do a Squad LFX. Before attempting such exercises commanders should seek guidance and training assistance from experienced units and personnel. The live fire training process is composed of three subordinate processes of planning, execution, and assessment (see Table 1-2).

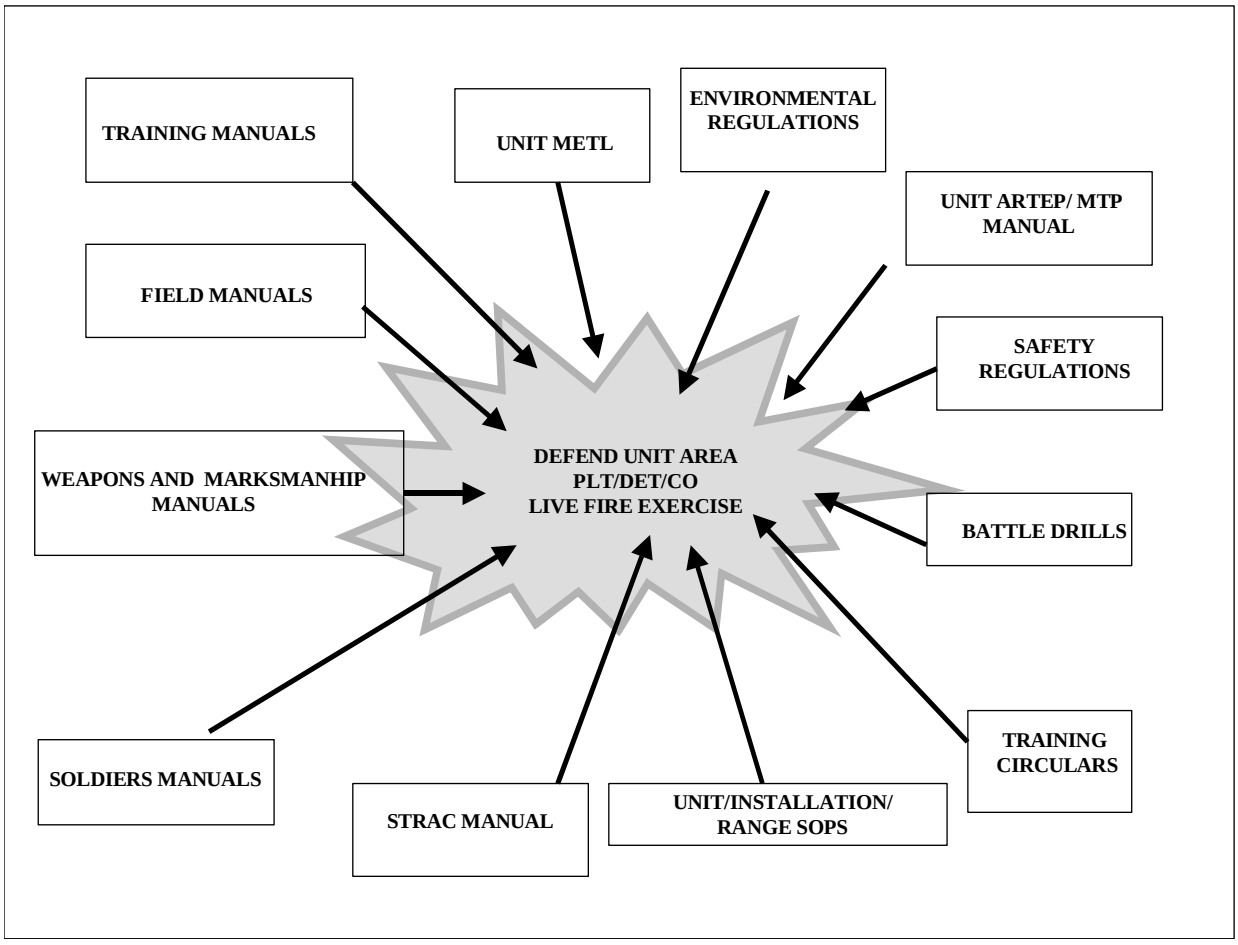


Figure 1-1. Army Training and Doctrine Products That Support Live Fire Exercises

Table 1-2. Live Fire Training Process

1-5. Battle-Focused Tasks. Although an LFX is mission-oriented, it may not train all tasks required for the mission. Since an LFX is resource-intensive, leaders must limit task selection to a realistic number of high-payoff tasks that support their most important METL, wartime missions or tasks identified as critical prior to deployment into an unprogrammed operating environment. Commanders select only the most essential tasks for training and train for the appropriate proficiency or skill level. Examples include:

- Battle tasks and battle drills.
- High payoff critical Soldier and leader individual tasks, collective tasks, and drills.
- Tasks not already performed to standard.

1-6. Crawl-Walk-Run Training Methodology. The live fire exercise is conducted using lane training principles and techniques. The lane-training concept is based on crawl-walk-run training methodology (see Table 1-3).

Table 1-3. Crawl–Walk–Run Training Methodology

Phase	Step	Action
CRAWL		The trainer describes the task step-by-step, including what each Soldier (and the unit) must do. Use the following procedure:
	1	Describe the task in general, its purpose and its importance.
	2	Describe the cue, command, or context in which the task occurs.
	3	Describe the standards of performance (training objectives, tasks, conditions, and standards) and evaluation methods.
	4	Demonstrate the task performance steps by performing the steps in the proper sequence.
	5	Describe the performance measures of each step of the task in detail.
	6	Discuss the role of supporting Soldier and leader individual and collective tasks in detail.
	7	Conduct dry fire.
	8	Answer questions.

Table 1-3. Crawl–Walk–Run Training Methodology (continued)

Phase	Step	Action
WALK		The trainer directs the Soldiers (or unit) to execute the task at a slow, step-by–step pace. Use the following procedure:
	1	Produce the cue that initiates the task.
	2	Have each Soldier (or unit element) perform actions required by each step at a slow pace.
	3	Coach and critique performance during each practice iteration.
	4	When the task is performed incorrectly, stop training, provide correction, and resume training.
	5	Direct each leader and Soldier to practice identified individual tasks until the leader and Soldier can perform it to standard without coaching.
	6	Direct crews, squads, sections, teams, and platoons to practice each identified collective task and battle drill until the element can perform it to standard without coaching.
	7	Incorporate OPFOR, Multiple Integrated Laser Engagement System (MILES), pyrotechnics, blank ammunition, and simulators to add combat realism.
RUN		**Soldier and unit task proficiency must be validated before the Run Phase of an LFX**. The trainer requires the Soldier (or element) to perform the task at full speed, as if in combat (under realistic battlefield conditions).
	1	Produce the cue that initiates the task(s).
	2	Allow the task(s) to be performed without interruption until completion (unless there are safety or environmental issues).
	3	Have the Soldiers (or unit) repeat the task(s) until it can be performed properly at full speed.
	4	Revert to the Walk phase if the Soldiers (or element) cannot perform the task correctly.
	5	Vary the conditions under which the task is performed (different MOPP levels, different terrain, different duty positions).
	6	Incorporate pyrotechnics and simulators to add to realism.
	7	Conduct an AAR to summarize the results of training: • Identify strengths and weaknesses. • Obtain feedback. • Emphasize key training points.

NOTE: Upon completion of crawl-walk-run procedures, the trainer should be able to verify the task proficiency of all Soldiers trained. The trainers retrain any Soldiers that are not proficient. Safety should be stressed throughout the processes.

1-7. Live Fire Exercise Characteristics. Live fire training must be coupled with force-on-force training. Each complements the other with different aspects of combat realism. Conducting force-on-force training with MILES (Crawl/Walk phase) reinforces realistic action during the run phase of an LFX. Live fire training trains the unit in many areas. Two of the most important are marksmanship and battle drill. Marksmanship encompasses the employment and accuracy of all weapons and weapons systems (which includes grenade marksmanship, machine gun marksmanship, and anti-armor marksmanship). Battle drill instills in squads, teams, and sections

the prerequisite skills to collectively respond to enemy activity and the willingness to close with the enemy in close quarter combat- **the Warrior Ethos.** Table 1-4 lists the LFX characteristics.

Table 1-4. Live Fire Exercise Characteristics

Characteristics	Description: Live Fire training has…
Small Unit Focus	A training focus on units of company size with emphasis on platoon and below.
Disciplined Scenario	A disciplined scenario concentrating on battle-focused tasks and providing structured stimuli to prompt friendly force behavior.
Battle Focus	A battle focus on a limited number of collective tasks/battle drills. These key or primary tasks/drills are supported by prerequisite Soldier and leader individual tasks, collective tasks, and battle drills that support the commander's training assessment. Training must: • Reinforce the Warrior Ethos. • Replicate combat conditions. • Address violent, uncertain, complex, and ambiguous contemporary operating environment. • Be tactical; not administrative. Maximize tough field conditions. • Test under realistic conditions. ***NOTE:*** All CSS units should be able to conduct action on contact drills for various forms of contact, mounted or dismounted: 1. React to Visual Contact. 2. React to Direct Fire Contact. 3. React to Direct Fire-RPG. 4. React to Direct Fire-Ambush. 5. React to Indirect Fire. 6. React to NBC 1. 7. React to Obstacle. 8. React to Air Attack. 9. React to Electronic Warfare. 10. React to IED Hazard. Units should develop TTP for: • Movement Techniques and Movement Formations. • Actions at a Halt. • Evacuate Injured Personnel (Ground and Aerial). • Secure a Perimeter. • Break Contact.

Table 1-4. Live Fire Exercise Characteristics (continued)

Characteristics	Description: Live Fire training has…
Validated Tasks	Doctrinally and technically correct tasks and training objectives that have been validated against current doctrine and Army standards. Sources of doctrinally correct training information include- • Field Manuals. • Training Circulars. • Mission Training Plans. • Battle Drill Manuals. • Soldier Training Publications. • Technical Manuals (weapons/vehicles). ***NOTE:*** Unit SOPs tailor doctrine and TTP to specific missions of the unit.
Controlled Tasks and Events	Highly controlled tasks, countertasks, and events that are structured to provide specific stimuli and elicit specific responses from the unit being trained.
Trained Observer Controllers	Observer Controllers trained and verified on specific Observer Controller Tasks and LFX tasks.
Trained Opposing Force	Opposing Force trained and verified on the specific Opposing Force countertasks required for the LFX in appropriate force ratios (when Opposing Force needed).
Support From Outside Unit Being Trained	Support (including Observer Controllers, Opposing Force, and resources) provided from sources other than the unit being trained.
Pre-Live Fire Leader Training	A pre-LFX leader training program to develop, verify, and certify the unit leader's task proficiency and ability to execute the LFX. Training is conducted prior to arrival at the live fire area.
Pre-Live Fire Unit Training	A pre-LFX unit training and verification period, after the leader training period, during which the unit's subordinate elements and personnel develop proficiency (training and rehearsals).
Pre-Live Fire Rehearsals	Observer Controller, Opposing Force, leader, and unit rehearsals prior to exercise.
Pre-Live Fire Validation	Validation of training plans and materials prior to exercise.
Leader and Unit Rehearsals	Leader and unit rehearsals in the LFX area (assembly area or rehearsal area) just prior to LFX.
Live Fire Training Area	A task execution area which focuses on one collective task or a group of related or supporting collective tasks which are conducted to the task performance standard (not time) at combat speed under conditions replicating the unit's mission and environment. The area is located or conducted in a specific training area (designated terrain or facilities). A LFX can have two or more lanes that train the same task under different conditions.

Table 1-4. Live Fire Exercise Characteristics (continued)

Characteristics	Description: Live Fire training has…
Training Multipliers	LFX preparation and execution supported by TADSS. Simulation may be designed and used to conduct preparatory training (pre-LFX), rehearsals, live fire execution, or retraining.
Task Performance Evaluation	An evaluation to determine if tasks were performed to standard. The senior Observer Controller in coordination with the leader of the unit conducts the performance evaluation with the leader of the unit being trained.
After Action Review	AAR is conducted immediately following live fire execution to provide feedback to the participants. The unit may conduct lower level informal AAR before or after a formal AAR.
Retraining	An opportunity after the AAR to conduct retraining until standards can be achieved. After retraining, the unit should have an opportunity to re-execute the same tasks in a different area or lane.
Post-LFX Validation	A validation of training and training materials after each iteration of the LFX.

1-8. Live Fire Range Execution Stages. Execution of the actual live fire (Run Phase) has five stages (see Table 1-5).

Table 1-5. Live Fire Exercise Execution Stages

LFX Execution Stages	Activities Included
Assembly	Actions involving unit in-briefing, leader preparation, and Troop Leading Procedures (including issuance of the unit's operations order). ***NOTE:*** These activities are normally conducted in an Assembly Area (AA).
Rehearsal	Action involving rehearsal of unit tasks to be performed on the LFX. ***NOTE:*** These activities are normally conducted in an AA or rehearsal area.
LFX Execution	Action required to perform specific, individual tasks, leader tasks, collective tasks, and battle drills during the LFX at combat speed.
AAR	Actions required to provide: • A structured, interactive, group oriented review and evaluation of the unit's task performance during live fire execution. • Suggestions on how to improve future performance.
Retraining	Actions required to enable the unit to perform individual or collective tasks to desired standards. ***NOTE:*** These activities normally take place in a retraining area or rehearsal area.

NOTE: Rehearsal, live fire execution, and retraining activities may take place on different lanes within the LFX area.

1-9. Live Fire Range Execution Control Measures. Graphic control measures must be established to direct and control live fire activities**.** The following graphic control measures may be used for a LFX involving convoy ambush operations:

- Assembly Area.
- Start Point.
- Line of Departure.
- Check Points.
- Phase Lines.
- Boundaries (represented by lines with unit information and or range limitations).
- Release Point.

In the Korean War, then Lt Lloyd Burke led his unit's cooks in a counterattack that saved his company and for which he was awarded the Medal of Honor. In Vietnam, then LTC Hank "Gunfighter" Emerson organized his battalion's clerks and mechanics to rescue a beleaguered company of his 2d Battalion, 502d (Airborne) Infantry.

1-10. Key Personnel. Table 1-6 lists key personnel involved in managing LFX.

Table 1-6. Key Personnel Managing LFX

Personnel	Description of Duties
Exercise Director	The individual responsible for overall management of the LFX.
Senior Observer Controller	The individual responsible for managing a specific LFX or LFX area. LFX may be conducted at the squad/team/section or platoon level.
Observer Controller	Personnel responsible for assisting Senior Observer Controller. There may be an Observer Controller for each leader in a unit and each key event of the LFX.
Opposing Force Leaders	Leaders of the element responsible for performing exercise counter tasks.
LFX Resource Managers	Personnel responsible for administrative or logistical support for the LFX.
Unit Leaders	The leaders responsible for the unit's training and for directing the unit during LFX.
Higher Headquarters Chains of Command	The leaders responsible for supporting the planning, execution, and assessment of the unit's training. LFX require involvement of the higher chain of command. Higher chains of command may use LFX as a vehicle to conduct multi-echelon training.

1-11. Training Aids, Devices, Simulators, and Simulations. Live fire training should include training multipliers to enhance the realism of the event. Use TADSS to--

- Enhance the realism of pre-live fire training and force-on-force LFX.
- Avoid omitting any essential conditions, portions of a task, or events that should be included in the LFX (MILES, simulations, and simulators to support live-fire training).

Chapter 2

Planning and Preparation of Live Fire Exercises

During World War II, Tech 5 Eric G. Gibson, a Quartermaster soldier, served as a company cook with the 30th Infantry Regiment when his unit came under withering enemy attack. He mobilized a squad of replacements to rush out and secure the unit's right flank. In so doing, they destroyed four enemy positions and killed five and captured two Germans. He then went out 50 meters in front of the squad, dodging automatic weapons fire; he single-handedly knocked out another position with his machine pistol.

Tech 5 Gibson continued moving toward other bunkers firing a sub machine gun with almost every step forward, as enemy artillery began to zero in on his position. Refusing to stop his advance, he crawled the last 125 meters through a concentrated artillery and small arms barrage, and dropped two hand grenades into a German machine-gun emplacement-killing two more and wounding another.

2-1. Training Strategy. The unit leaders develop a training strategy. A training strategy is a general description of the methods and resources required to implement a training concept. It lays out the "who, what, where, when, why, and at what cost" for training. The purpose of a training strategy is to determine major training events and activities to improve or sustain proficiency on mission essential tasks. All pre-live fire leader and Soldier individual and collective training should be incorporated into the unit training strategy. A live fire exercise is the culmination point of a unit's training strategy (see Table 2-1).

Table 2-1. Training Strategy

Step	Action
1	Review training guidance (CATS, METL, level of training readiness, operational tempo (OPTEMPO), and available resources).
2	Confirm the training need (the "why").
3	Determine who, what, where, and when to train.
4	Determine the logical sequence in which to conduct the training.
5	Determine the types of training to be used (LFX in conjunction with command post exercise (CPX) for the battle staff). Is this a multi-echelon training opportunity?
6	Determine frequencies for each task.
7	Coordinate major training enablers (training area, TADSS, outside support).
8	Match projected resources to the training requirement.
9	Provide input to the next higher commander's training guidance.

2-2. Training Strategy Development. CSS units have different amounts and types of equipment and personnel. The organizational structure is variable with dependence on teams, sections and squads. All of these components must be included in a training strategy.

a. Figures 2-1 through 2-3, page 2-2, depicts the components of the systems organic to CSS units and addressed in this publication. These systems can be supplemented to match any unit's organization.

b. At times, the components of a system may vary (personnel strengths rarely remain constant and specific weapons may be turned in for maintenance). The key is for the unit commander to train and plan for assigned systems and possible contingencies.

SOLDIER
M9 Pistol
M16/M4 Rifle/Carbine
Hand Grenades
Claymore Mines
M203 Grenade Launcher

Figure 2-1. Buddy/Team System

TEAM/SECTION/SQUAD
M9 Pistol
M16/M4 Rifle/Carbine
Hand Grenades
Claymore Mines
M203 Grenade Launcher
M249 Squad Automatic Weapon
M240/M60 Machine Gun
M2 Machine Gun
Mark 19 Grenade Machine Gun

Figure 2-2. Team/Section/Squad System

PLATOON
M9 Pistol
M16/M4 Rifle/Carbine
Hand Grenades
Claymore Mines
M203 Grenade Launcher
M249 Squad Automatic Weapon
M240/M60 Machine Gun
M2 Machine Gun
Mark 19 Grenade Machine Gun
AT4 Light Anti Armor Weapon

Figure 2-3. Platoon System

2-3. Cycle Sustainment Training. Every unit undergoes personnel turnover. In order to attain and sustain tactical proficiency, units should plan progressive, sequential training to develop their weapon crews, buddy teams, squads, and platoons. This sequential training is done in stages beginning with individual training.

a. Individual training begins in initial-entry training (IET). This training must be expanded and sustained in the unit. Stage 1 include individual sustainment training in the unit. This training must cover weapons maintenance and zero, static marksmanship (current qualification), and mobile marksmanship. (a concept where the soldier goes beyond current qualification practices and learns to fire and move at the same time for example, quick fire and reflexive fire while mounted or dismounted or while breaking contact).

b. Collective marksmanship training consists of 5 stages: Stage 1, Individual; Stage 2, Crew; Stage 3, Buddy/Team; Stage 4, Squad; and Stage 5, Platoon. These stages might cover these areas:

- Weapons maintenance and zero/calibration (for crews).
- Static marksmanship (defense, ambush).
- Mobile marksmanship. (fire and movement, mounted or dismounted).
- Command and control (movement and direction, rate, distribution of fires, visual signals).
- Integration of fires.
- Supporting fires.
- Range determination and target identification.

c. Unit live-fire training follows a progressive, sequential cycle. These cycles are similar for each stage. The unit can tailor training to its METL.

(1) ***Stage 1, Individual***. The cycles in Stage 1 include:

- Zero weapon.
- Qualify with assigned weapon (rifle, pistol).
- Familiarize with hand grenade, Claymore Mine, and M203.
- Perform advanced individual techniques (dry fire of combat record fire): engage enemy with multiple systems (rifle, bayonet, grenade); conduct mobile marksmanship (fire and movement, reflexive fire, fires while mounted or dismounted); and focus on individual movement techniques, hand and arm signals, cover and concealment, and preparation of fighting positions.
- Rehearse (blanks/MILES).

(2) ***Stage 2, Crew.*** The cycles in Stage 2 include:

- Qualify with assigned crew-served weapon.
- Dry fire (engage enemy with multiple systems).
- Rehearse (blanks/MILES).

(3) ***Stage 3, Buddy/Team.*** The cycles in Stage 3 include:

- Dry fire (engage enemy with multiple systems).
- Rehearse (blanks/MILES).
- Conduct LFX (fire and movement, fires while mounted or dismounted).

NOTE: This is the first coordinated movement exercise (fire and movement). Individual movement techniques and communication (to include arm and hand signals) should be refined during this exercise. This cycle requires command and control.

(4) ***Stage 4, Section/Team/Squad.*** The cycles in Stage 4 include:

- Dry fire (engage enemy with multiple systems).
- Rehearse (blanks/MILES).
- Conduct LFX.

NOTE: The section/team/squad exercise could also be combined with the platoon LFX. With the introduction of maneuver, the command and control process (by team and squad leaders) complicates the exercise. **Force-on-force (to include use of blanks, MILES) training must precede all LFXs at this level and higher.**

(5) ***Stage 5, Platoon.*** The cycles in Stage 5 include:

- Dry fire (engage enemy with multiple systems).
- Rehearse (blanks/MILES).
- Conduct LFX (combined with section/team/squad). Command and control by section, team, squad, and platoon leaders is more difficult. Supporting fires must also be integrated. This includes platoon organic and nonorganic systems.

d. Sustainment training is always cyclic. In most units, personnel turnover and the natural erosion of individual and collective skills require a plan for sustainment. The focus of training must go beyond rifle marksmanship and address the challenges confronting the American Soldier in the contemporary operating environment. Lessons learned from Operation Iraqi Freedom reveal that every Soldier within the battlespace must be proficient in performing basic infantry tasks. The commander must constantly assess the tactical proficiency of his sections, teams, squads and platoons and train or retrain them in the needed individual and collective skills.

e. Before any training is conducted that expends blank or live ammunition, a dry-fire or walk-through exercise (crawl) should be conducted. This allows the unit to improve movement techniques, command and control, safety, and many other areas before critical resources are used. ARTEP 7-8-DRILL, *Battle Drills for the Infantry Rifle Platoon and Squad* provides Infantry School approved guidance that CSS units may use to obtain the maximum training effect from their training resources as well as enhance safety.

2-4. Training Building Blocks. Units must first learn basic tasks, in order to reach a training goal. Each task or group of tasks is a building block used to progress to a higher level of training. Once a foundation is laid, the unit begins to build on it layer by layer, until the final objective is achieved.(see Table 2-2).

Table 2-2. Training Building Blocks

TRAINING LOCATION	THE CSS PLATOON PREPARED FOR TACTICAL OPERATIONS	STAGES (Bottom to Top)
UNIT	PLATOON TRAINING TEAM/SECTION/SQUAD AND PLATOON LFX	5
UNIT	SQUAD TRAINING FIRE AND MOVEMENT, SQUAD DRILL	4
UNIT	CREW TRAINING WPN MAINTENANCE: ZERO, QUALIFICATION, CREW DRILL	3
UNIT	BUDDY/TEAM TRAINING, BUDDY/TEAM DRILL	2
IET/UNIT	INDIVIDUAL TRAINING WEAPON MAINTENANCE, ZERO, MARKSMANSHIP, QUALIFICATION, ADVANCED INDIVIDUAL TECHNIQUES	1

a. A training building block may consist of multiple individual tasks. When individuals or units are proficient in all tasks, they are proficient in the training building block. Training aids can be used to help achieve proficiency in each of the training blocks. Training aids to support LFX include Engagement System 2000, MILES, practice grenades, artillery simulators, pyrotechnics, inert claymore mines, and blank ammunition.

b. The unit commander must determine how much time and effort to spend on each building block. Some blocks will require little effort to obtain proficiency, while others will demand extensive time, resources, planning, and personnel.

c. IET lays the foundation for basic qualification and familiarization of individual weapons (M16 rifle, M203 grenade launcher, hand grenades). It also teaches individuals and buddy teams fire and movement. This short exposure to basic skills establishes the foundation that units must build on to ensure a soldier's confidence in himself, his unit, and his leaders. The unit must reinforce and sustain these highly perishable skills and expand them to prepare the unit for tactical operations. LFXs should include the training a unit has completed to be combat-ready. DA Pam 350-38, *Standards in Weapons Training,* outlines training and qualification requirements.

2-5. Conduct a Training Assessment. The commander conducts a detailed evaluation of the unit's METL proficiency that focuses on training deficiencies. It compares individual (Soldier and leader) and collective task proficiency with Army standards. The unit leaders must identify the training needs of the unit. Table 2-3 lists step-by-step procedures.

Table 2-3. Identify Unit Training Needs

Step	Action
1	Identify training strengths and weaknesses for each high payoff METL task and battle task. Sources of information include: • Lessons learned from recent conflicts or Combined Arms Training Centers (CTC) or the Center for Army Lessons Learned (CALL). • Internal and external evaluations. • Annual training reports. • Leader Books. • Operational readiness evaluations.
2	Consider: • New missions or METL tasks. • Force structure or doctrine changes. • New equipment fielding. • Personnel availability. • Resource availability. • Individual, leader, and collective tasks, conditions, and standards. • Individual, leader, and collective task proficiency. • Contemporary operating environment.
3	Identify areas of training strengths and weaknesses. Potential training needs include but are not limited to: • Land Navigation (terrain association, map and Global Positioning System). • Move over, through or around obstacles (except minefields). • Basic marksmanship/Reflexive firing. • Individual/crew-served weapons qualification. • Employment of grenades, mines and other obstacles. • Light anti-armor weapons training. • Preparation of range cards/sector sketches. • Fire and movement techniques. • Preparation of fighting positions. • Pre-combat checks (to include pre-convoy checks). • Calls for indirect fire. • Casualty collection and evacuation. • Calls for aerial medical evacuation. • Reaction to ambush (battle drill for convoy operations). • Employment of quick reaction forces. • Command and control training. • Hardening of positions and vehicles. • Processing detainees/prisoners of war. • Checkpoint security. • NBC defense operations. • Tactical operations during periods of reduced visibility or darkness. • Enemy mines and improvised explosive devices TTP. • Reaction to unexploded ordnance hazard. • Engage targets using a night vision device. •

Table 2-3. Identify Unit Training Needs (continued)

Step	Action
3 (continued)	• Engage targets using an aiming light. • Use visual signaling techniques. • Field sanitation measures.
4	Assess proficiency using automated systems or locally developed worksheets (use METL and the battlefield operating systems (BOS) as your guide). Rate either task as: • "T" (Trained)-The unit can successfully perform the task to standard. Only sustainment training is needed. • "P" (Partially Trained)-The unit can perform the task with some shortcomings, which are not severe enough to require retraining. Only refresher training is required. • "U" (Untrained)-The unit cannot perform the task to standard. The unit requires training on the task.
5	Identify a strategy for each task to improve or sustain training proficiency.

2-6. Determine Training Requirements. The commander determines the critical tasks units and Soldiers must be able to perform to the standard required if they are to be able to fight, win, and survive during military operations. Training requirements are the differences between demonstrated and desired levels of proficiency for mission essential or battle tasks (see Table 2-4).

Table 2-4. Determine Training Requirements

Step	Action
1	Select priority Soldier and leader individual and collective tasks that support LFX. Consider: • Unit battle tasks. **All CSS units (less medical) must be able to defend march elements (convoys) and defend assigned areas against a Level 1 threat.** • Battle tasks of the next higher echelon. • Tasks which support the METL of parent unit. • Tasks which are battle focused. • Higher headquarters guidance. • Commander's METL assessment. • Commander's training assessment.
2	Select tasks for training and evaluation. Consider: • List supporting collective, leader, and other individual tasks that support the LFX. • If they have not been identified previously, use the following sources to identify supporting tasks: MTP, FM, TC, STP, TM, unit leaders, subject matter experts, training proponents. Review Chapter 2, *Mission to Collective Task Matrix*, Chapter 4, *Field Training Exercise* and Chapter 5, *Training and Evaluation Outlines* of the unit specific MTP. Other sources of information to include CATS, Soldiers Manual of Common Tasks (SMCT) FM 7-0, *Training the Force* and FM 7-1, *Battle Focused Training* can also help identify supporting individual and collective tasks. •

Table 2-4. Determine Training Requirements (continued)

Step	Action
2 (continued)	• Identify prerequisite tasks for which proficiency is considered low. **Proficiency in prerequisite tasks must be accomplished/demonstrated before attempting the higher task.** Consider sampling Soldier proficiency on prerequisite tasks to determine if those tasks require pre-training or selection as tasks for separate or prerequisite training. • Conduct a task support check to ensure each primary task has at least one collective, leader, or other individual task to support it.
3	Review task performance standards. Increase them if needed.
4	Change conditions for tasks to meet the contemporary operating environment.
5	Review task steps and performance measures. Modify them if needed.

NOTE: The procedures listed above determine not only training requirements in terms of tasks, but also training objectives (tasks, conditions, standards), task steps, and performance measures. This information is used to evaluate existing T&EO or develop new ones.

2-7. Develop the Training Plan. The commander develops a description of the actions, milestones, and resources required to implement a training strategy. The next higher headquarters develops a training plan for the LFX in coordination with the unit commander and exercise planners (see Table 2-5).

Table 2-5. Develop the Training Plan

Step	Action
1	List actions required to train and evaluate the tasks selected as training requirements.
2	Identify associated milestones.
3	Identify personnel responsible for each action.
4	Estimate the resources required to support OC, OPFOR and the training units. Sources of information include CATS, MTO&E, MTP, STP and historical files.
5	Confirm the availability of training resources.
6	Adjust the plan to accommodate projected resources.
7	Brief the plan to the next higher headquarters.

2-8. Identify Training and Evaluation Outlines. The unit specific mission training plan contains the critical T&EOs that support a unit's METL. A T&EO provides the training objective for a collective task that supports unit critical military operations in terms of a specific mission or task for a given size and type unit. T&EOs are a summary document, prepared for each training activity, which provides information on collective training objectives, related individual training objectives, and applicable training procedures. T&EO selection or preparation must occur before the near-term planning phase for battle-focused training. T&EOs are needed to conduct detailed LFX planning, prepare situational training exercise (STX) training support packages, and identify resource requirements early enough to acquire them prior to the conduct of training. T&EOs form the basis for training, internal evaluations, and formal external evaluations. Each T&EO includes the following:

- Element (unit).
- Task.

- Conditions.
- Task standard.
- Task steps and performance measures, including references.
- Areas for evaluation information (GO/NO GO).
- Supporting individual tasks (Soldier and leader).
- OPFOR tasks and standards.

2-9. Determine Resources to Support the Training Plan. Table 2-6 lists resources required to support the training plan.

Table 2-6. Resources Required to Support the Training Plan

Category	Example
Administration	• Administration. • Doctrine and training products (FM, TC, MTP, SMCT, Battle Drills, STP, and TM). • Unit TACSOP. • Medical Support.
Personnel	• OC. • OPFOR. • Role players (Civilians in the Battlespace).
Logistics	• TADSS (MILES, simulators). • Equipment and supplies (vehicles, radios, telephones, maps, lumber, sandbags, concertina, and so on). • Food service support. • Water. • Weapons. • Ammunition (blank and live) and pyrotechnics. • POL. • Maintenance (weapons, communications and other equipment). • Transportation. • Funds.
Facilities and training areas	• Certified Live Fire Area for perimeter defense. • Certified Live Fire Area for convoy defense. • Administrative areas.

Warrior Ethos, not just for combat Soldiers.

2-10. Refine the Training Plan. The higher headquarters and unit commander refine the training plan (see Table 2-7).

Table 2-7. Refine the Training Plan

Step	Action
1	Organize selected collective tasks into the LFX. • Use an existing LFX if the LFX adequately meets requirements. • Create a new LFX or lane within an existing LFX for those tasks not addressed. • Use STX plans, T&EO, and task descriptions from existing material (LFX, MTP, STP, FM, TC, TM, TSOP, commander's guidance, and similar sources). Information may be available from other units. • Sequence events within the LFX so that the tasks trained are progressive, sequential and based on the "building block" approach.
2	Identify units or elements to be trained.
3	Consider using CPX/simulations as training opportunities for battle staffs when subordinate elements are involved in LFX. However, commanders and battle staff will require time to observe their units perform the LFX.
4	Conduct a general safety and environmental risk management assessment of conditions under which the LFX will be conducted. See FM 100-14, *Risk Management* for more information. • Conduct risk assessment. • Identify potential risk control options to eliminate or reduce each hazard. Risk reduction options include eliminating the hazard; controlling the hazard; changing operational procedures, education, and motivation. • Make risk decisions. • Implement risk control options. • Supervise the implementation of controls throughout the LFX. • Assess the effectiveness of risk management during planning and execution. • Take corrective action as required.
5	Obtain approval of LFX plans by the commander and higher headquarters.
6	Develop LFX training support package.
7	Provide LFX TSP to subordinate elements.

2-11. Prepare Supporting Plans and Materials. The unit commander plans for supporting exercise plans and materials (see Table 2-8).

Table 2-8. Prepare Supporting Plans and Materials

Step	Action
1	Decide what plans and materials will be required.
2	Assign responsibility and milestones for completion of LFX plans and materials. ***NOTE:*** A milestone schedule is used to list the plans and materials required for an LFX along with their start, completion or approval dates and the organizations or personnel responsible for completion.
3	Approve or obtain approval of plans and materials.

2-12. Plan for After Action Reviews. AAR planning supports the conduct of AAR during the execution phase of the live fire training process. The commander conducts AAR planning for LFX (consider each lane). TC 25-20*, A Leader's Guide to After Action Reviews* contains additional guidance on AARs. The following are some questions that need to be addressed.

- When and where will the AAR be conducted?
- Who will attend the AAR?
- Who will observe the LFX?
- Who will conduct the AAR?
- What will the OC evaluate?
- What training aids will be used during the AAR (maps, overlays, terrain models, charts)?
- Will there be an AAR for unit elements before the unit AAR? Where, when, and by whom will they be conducted?
- How long will the AAR take?
- When and where will AAR rehearsals be held?
- What is the format of the after action report?

2-13. Plan for Exercise Control. Synchronization of LFX requires thorough planning. Planning for exercise control normally involves preparation of control plans for each LFX and for overall management of all LFX. Exercise control plans provide instructions for controlling and evaluating one or more LFX. Exercise control plans can include:

- A description of the organization for training.
- Command and control organization chart.
- OC organization chart.
- OPFOR organization chart.
- Tables of manpower and equipment requirements.
- Tables of personnel assigned by duty position.
- Responsibilities.
- Training and verification/certification plans (for key leaders, OC, and OPFOR).
- Transportation.
- Training schedules, master exercise schedule, LFX schedules, and lane schedules.
- Communications.

- Uniform markings, color control, and exercise rules.
- Rules of engagement (ROE).
- Safety and environmental instructions.
- Reports and formats.

2-14. Plan for Communications. Communications must be determined and established to support the LFX. Table 2-9 lists the potential users of communications nets.

Table 2-9. Communications Net Users

Communications Net	Users
Unit Command	Training Unit
Exercise control	OC
Fire marker control	Fire markers
Medical	Medical personnel
Administration and logistics	All

2-15. Prepare Live Fire Exercise Training Support Packages. The unit commander prepares TSPs to guide the execution of the LFX. Example and potential contents for a TSP for LFX are listed below.

a. Example LFX TSP Contents.

- Introduction (description of LFX).
- Scenario.
- List of collective tasks trained.
- List of supporting individual tasks.
- General and special situations (scenario).
- OPORDS, FRAGOs, and warning orders.
- Area diagram.
- LFX timeline or schedule.
- Task summary status sheet for each participating element.
- T&EOs.
- Safety and environmental guidance.
- Risk assessment model and worksheet.
- ROE.

b. Other Potential Contents for the LFX TSP.

- List of OPFOR collective countertasks.
- List of supporting individual tasks for the OPFOR.
- Individual task descriptions.
- Control plan.
  - Organizational diagram for the LFX OC and OPFOR.
  - List of OC team duty positions for LFX (with names of assigned personnel).
- Map extract for specific LFX lane.
- Training and verification/certification plan.
- Live fire training planning timeline.
- Matrix of collective tasks versus supporting Soldier tasks.
- Maps and overlays.
- AAR plan.
- Master scenario events list.
- Event guide.
- Training schedule.
- Retraining plan.
- Resource requirements.
- TADSS instructions.
- OC or OPFOR special instructions.
- MOA (between units involved in the LFX) addressing support.

2-16. Prepare Observer Controller Handbook. The LFX handbook is used by OC (and possibly OPFOR) to support a LFX. It contains the same information as in the LFX TSP plus additional information as follows:

- Special instructions to OC and OPFOR (timing of actions, AAR).
- List of OPFOR collective countertasks (with T&EOs) and supporting individual tasks (with task descriptions).
- LFX diagram (one for each lane in the LFX area).
- LFX communications network diagram.

- LFX or lane schedules.
- OC duties, responsibilities, and procedures.
- AAR procedures.
- General safety and environmental guidance.
- First aid procedures.
- Comprehensive ROE.

2-17. Prepare Training and Proficiency Verification/Certification Plan. The unit commander develops a plan that describes the actions and milestones required to train personnel on primary and prerequisite collective and individual tasks prior to LFX. Individual and unit task proficiency must be verified before conducting the live fire (Run Phase).

a. Action. The unit commander develops separate training and proficiency verification/certification plans.

b. Focus. Training and verification/certification plans address the training required for—

- Unit, Observer Controller, and Opposing Force leaders.
- Observer Controllers.
- Opposing Force.
- Personnel and units to be trained on the live fire.
- Other personnel required to support the live fire.

c. Contents. This plan can consist of a matrix listing tasks versus categories of personnel and indicating—

- How and when the training will be provided.
- How and when task proficiency will be verified.

NOTE: Consider the use of simulations (CPX) for staffs, leaders, and others.

2-18. Acquire Training Guidance, Resources, and References. The unit leaders acquire training guidance, resources, and references.

a. The result of proper planning and coordination during the previous planning phase is the acquisition of all the guidance, training materials, and resources needed to prepare exercise support elements and the unit for the LFX.

b. The unit commander should consider temporarily or permanently pre-positioning resources at the LFX site so units can begin training immediately after arrival.

2-19. Conduct a Reconnaissance of the Training Site. Key unit personnel, OC, and OPFOR leaders conduct a reconnaissance of the training site. The purpose of this reconnaissance is to—

- Confirm the adequacy and accuracy of prior planning.
- Prepare for rehearsals prior to the LFX.
- Prepare for activities during the LFX.

2-20. Conduct Risk Management Assessment. The commander and senior OC of each live fire exercise conduct risk management.

a. The purpose of risk management is to identify potential hazards and implement control measures to prevent—

- Injury or loss of life to personnel.
- Damage to equipment, facilities, and the environment.

b. Conduct a risk assessment of each scheduled training event and LFX lane prior to training execution.

c. Risk management is a function that must be performed throughout the planning, execution, and assessment process for training. However, it is at this point in the planning process that the use of risk management procedures is the most critical. This is the point at which sufficient information is available about the planned LFX that risk management planning can be the most effective.

d. Follow the guidance in appropriate publication, and SOPs.

2-21. Coordinate Training Events, Activities, and Resources. The leader coordinates training events, activities, and resources (see Table 2-10).

Table 2-10. Coordinate Training Events, Activities, and Resources

Step	Action
1	Review doctrinal and training material (MTPs, battle drills, T&EO, FM, TC, STP, TMs, and SOP).
2	Provide guidance and references to OC, OPFOR, and unit members.
3	Ensure unit elements have been integrated into training.
4	Schedule time for pre-execution checks.
5	Publish detailed schedules.
6	Confirm certification of leader, OC, and OPFOR task proficiency during pre-LFX training.
7	Gather and prepare training support items, MILES equipment, other TADSS, and required supplies and equipment.

2-22. Conduct In Process Reviews. The unit leader conducts IPR with the unit and exercise support element.

a. IPR participants include the OPFOR leader, the senior OC for each LFX, staff personnel, unit leaders, advisors, and other appropriate personnel.

b. The purpose of the IPRs is to confirm plans and preparations, including—

- OC team structure, training, and verification.
- OPFOR organization, training, and verification.
- Unit training and verification plans and status.
- LFX task lists.
- OPFOR task lists.
- LFX scenarios.
- Training resource availability.
- Milestones and status of actions.
- Other issues.

2-23. Conduct a Commander's Live Fire Exercise Briefing. The unit commander conducts an LFX briefing for the next higher commander of the unit to be trained.

NOTE: This may be accomplished during IPRs. The purpose of the briefing is to obtain approval of plans and preparations, including—

- Training objectives and expectations.
- LFX task lists.
- Leader training.
- Resource requirements and limitations.
- Training guidance.
- ROE.
- Safety and environmental issues.
- Obtain approval from the commander.

2-24. Conduct Pre-Live Fire Training/Certification for Trainers. The commander conducts pre-LFX training and certification for trainers.

a. The trainers to be trained include—

- Key unit leaders.
- OC.
- OPFOR.

b. The senior OC, OPFOR leader, and unit leader conduct pre-LFX training for OC, OPFOR, unit leaders, and supporting personnel (see Table 2-11).

Table 2-11. Pre-LFX Training for OC, OPFOR, Unit Leaders, and Supporting Personnel

Step	Action
1	Prepare to conduct pre-LFX training. • Review appropriate materials for the group to be trained (lane books, TSP, exercise plans, FM, TC, TM, maps, orders). • Conduct training rehearsals for leaders (OC, OPFOR personnel).
2	Conduct pre-LFX training. • Confirm safety and environmental considerations are met (conduct risk assessment) • Use crawl, walk, run training process. • Use progressive training.
3	Verify task proficiency.

c. Potential training methods for conducting trainer training include—

- Professional development sessions.
- Classroom instruction.
- Map exercises.
- Fire coordination exercises.
- Command post exercises.
- Operations order preparation drills.
- Backbriefs.
- Reduced force rehearsals for specific tasks.
  - Map.
  - Sand table.
  - Rock drill.
  - Communications.
  - Training exercise without troops (TEWT).

- Full force rehearsals.
- Simulations and simulators.
- Army courses (service schools, U. S. Army Reserve Forces Schools, regional training sites).

2-25. Observer Controller Training. Potential topics for OC training include the following:

- Lane training roles, principles, and guidance.
- Live fire exercise management process and procedures.
- OC role, responsibilities, and procedures (including pre-LFX, LFX, and post-LFX).
- OPFOR role, responsibilities, and procedures.
- Leader training.
- Troop Leading Procedures (TLP).
- Rehearsal techniques.
- AAR process and procedures.
- Communications equipment and its operation.
- TADSS use and its operation (MILES).
- Rules of Engagement.
- Exercise safety, environment, and risk assessment.
- LFX demonstration, rehearsal, and practical exercise.
- Scenarios.
- LFX tasks.
- OPFOR countertasks.
- The training area and its regulations and restrictions.
- Safety and environmental protection requirements.
- Risk management.
- Medical treatment and evacuation procedures.
- Administrative and logistical procedures.
- Control measures and communications.
- OC reporting responsibilities and report formats.
- Specific AAR procedures.

2-26. Integrate Training Aids, Devices, Simulators, and Simulations. Pre-LFX training for trainers should incorporate the use of TADSS (especially simulations and simulators) for the training of OC, OPFOR, and unit leaders.

2-27. Plan for Feedback. If deficiencies in LFX training plans or materials are noticed, inform LFX planners so deficiencies can be corrected. Feedback supports training validation of training, plans, and materials.

2-28. Conduct Pre-Live Fire Exercise Training for Unit Personnel. Unit leaders conduct pre-LFX training for unit personnel (see Table 2-12).

Table 2-12. Pre-Live Fire Exercise Training for Unit Personnel

Step	Action
1	Prepare to conduct pre-LFX training. • Review appropriate materials for the group to be trained (lane books, TSP, exercise plans, FM, TC, TM, maps, orders). • Conduct training rehearsals for leaders (OC, OPFOR, personnel).
2	Conduct pre-LFX training. • Confirm safety and environmental considerations are met (conduct risk assessment) • Use crawl-walk-run training process. • Use progressive training.
3	Verify task proficiency.

2-29. Unit Prerequisite Pre-Live Fire Exercise Training. Unit pre-LFX training must address individual, leader, and collective prerequisite training and any previously identified training shortfalls. See Step 3 of Table 2-3, Unit Training Needs, for a list of pre-LFX training needs. The list is not all inclusive, but can assist the unit commander to identify areas requiring training.

2-30. Conduct Rehearsals. Conduct rehearsals for all LFX participants to—

- Review effective training techniques.
- Ensure safety and environmental considerations are met.
- Prepare OC, OPFOR, and Soldiers for the LFX.
- Determine how the OC will evaluate the Soldier, leader, or unit performance for compliance with the training objective.
- Confirm each OC is tactically proficient and technically competent.
- Verify unit task proficiency.
- Ensure personnel can operate TADSS (MILES/simulators).
- Identify weak points in the LFX plans and materials (to support training validation).

2-31. Rehearsal Guidelines. Apply the following guidelines—

- Use the actual LFX lanes. If not possible, consider using an alternate site or simulations.
- Ensure each element (OC, OPFOR, unit leaders) participates fully with the personnel and equipment required for the actual LFX.

2-32. Validate Training Plans and Materials. At this point in the live fire training planning process, validation is an evaluation of the training plans and materials to determine if they are adequate to accomplish the training objectives. Validate plans and materials to—

- Verify their training effectiveness in achieving the training objectives.
- Identify training product deficiencies.
- Improve efficiency and effectiveness of training objectives, sequence, products, materials, and execution.

2-33. Conduct Final Coordination. Unit leaders conduct final coordination. The purpose of this final coordination is to ensure all outstanding issues are resolved.

2-34. Conduct Pre-Execution Checks. Unit leaders conduct pre-execution checks. Procedures, usually using checklists, are employed to ensure that all planning and prerequisite training (Soldier, leader, and collective) have been conducted prior to the execution or conduct of training. Sample pre-execution checks are listed below. Modify the list to apply to the planned LFX and unit.

- Have previous lessons learned been integrated?
- Have leaders identified and eliminated training distracters?
- Have simulations and simulators and other TADSS been included?
- Have T&EO been acquired or prepared?
- Has LFX TSP been prepared?
- Has TSOP been updated?
- Have leaders been trained and their proficiency verified on leader and collective tasks?
- Have OCs been identified, equipped, and trained?
- Has the OPFOR been identified, equipped and trained?
- Have OC and OPFOR been verified on their task proficiency?
- Have Soldiers been trained and verified on prerequisite individual (Soldier and leader) tasks, collective tasks, and battle drills prior to execution?
- Have pre-LFX rehearsals been conducted?
- Have AARs been scheduled?

- Has a risk assessment been completed?
- Have safety considerations been incorporated?
- Have leaders been briefed on environmental protection rules and considerations?
- Have LFX ranges been requested and approved?
- Has a reconnaissance been conducted?
- Are range or maneuver area SOPs/guidelines on hand?
- Are leaders certified to conduct LFX?
- Are organizational equipment and special tools on hand?
- Has TADSS been identified, requested, and acquired?
- Can trainers operate all equipment to include TADSS and targetry?
- Has all equipment/weapons been tested to include communications equipment?
- Has Class I (rations) been requested and arranged?
- Has Class II (general supplies) been requested and arranged?
- Has Class III (POL) been requested and arranged?
- Has Class IV (construction and barrier materiel) been requested and arranged?
- Has Class V (ammunition, simulators, and pyrotechnics) been requested and arranged?
- Has Class VIII (medical supplies for combat Life Saver Bags) been requested and arranged?
- Has Class IX (repair parts) been requested and arranged?
- Has medical support been requested and arranged?
- Are latrine facilities available? Have portable toilets been pre-positioned?
- Has provisions been made for the collection and disposition of refuse?
- Has a back brief to the chain of command been coordinated?

Chapter 3

Executing Live Fire Exercises

"In a conventional conflict the tanks take the fight to the enemy and supply troops operate behind the front lines. But in this war {Operation Iraqi Freedom} there often was no clear front line. American forces were pitted against paramilitary fighters, who often let the tanks and the Bradley Fighting Vehicles pass so they could attack the vulnerable logistics troops that followed them.

Supply troops and even headquarters staff, who were not designated for combat, sometimes found themselves in the thick of the action. Hauling ammunition for the tanks was sometimes more dangerous than fighting in them."

SFC Theodore Burnside, 3rd Infantry Division, 24 March 2003

3-1. Live Fire Exercise Execution. The execution of effective training to standard is the payoff for the successful completion of the planning phase of the live fire training process. The payoff for effective training execution is a unit trained to accomplish its wartime mission.

3-2. Live Fire Exercise Guidelines.

- Objective. Make training doctrinally accurate, well structured, efficient, relevant, realistic, safe, and effective.

- Support. Identify time frames for support activities to occur during integrated live fires (ration breaks, refueling windows).

- Integration. Integrate collective and individual tasks throughout the LFX. All leaders should use the same training process for integration. However, commanders key in on battle focused collective mission-essential tasks and junior leaders key in on the supporting individual tasks.

- Distracters. Reduce or eliminate training and mission distracters.

3-3. Live Fire Exercise Execution Phase. Figure 3-1 graphically depicts the execution phase of an LFX composed of the activities that take place in an LFX area.

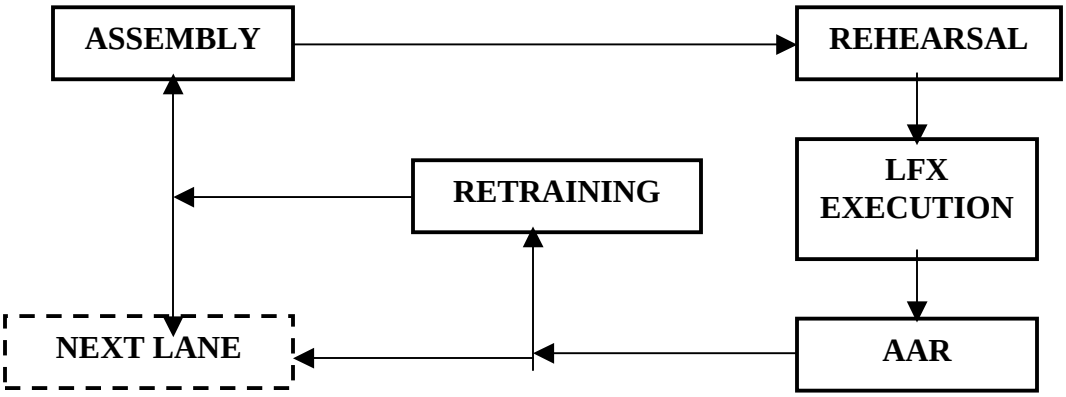


Figure 3-1. LFX Execution Phase

NOTE: The rehearsal, live fire execution, and retraining activities may take place on different lanes within the LFX area.

"Warrior ethos, individual and collective competence and teamwork yield an Army invariably persuasive in peace and invincible in war"

Eric K. Shinseki, Former CSA and General, US Army (Retired), *3 June 2003*

3-4. Perform Assembly Procedures. See Table 3-1 to perform assembly procedures.

Table 3-1. Assembly Procedures

Step	Action
1	Senior OC conducts unit in-briefing. • Introduction. • LFX scenario. • T&EO. • ROE. • Safety and environmental issues, cautions, and controls. • Administrative and logistics issues. • Identification of counterparts.
2	Senior OC or higher headquarters issues mission or OPORD to unit leader. • Unit leader back briefs senior OC. **Note:** Receipt of OPORD prompts the unit leader to initiate TLP. As task proficiency is attained, time to conduct TLP may be constrained to add realism. • Unit leader issues warning order to junior leaders.

Table 3-1. Assembly Procedures

Step	Action
3	Key leaders proceed to the leader training area for leader preparation. • Senior OC reverifies unit leader's task proficiency (including TLP). • Unit leader makes a tentative plan and the unit OPORD while the unit prepares. • Unit leader briefs tentative plan and OPORD to senior OC. • Unit leader conducts a reconnaissance. • Unit leader completes the plan and OPORD. • Unit leader rehearses plan with senior OC. • Unit leader receives concurrence from senior OC to continue.
4	OC reverify key unit leaders task proficiency (including TLP). • Unit leader issues OPORD to junior leaders. Junior leaders back brief unit leader and OC. • Junior leaders develop tentative plans and OPORD. • Junior leaders conduct a reconnaissance. • Junior leaders complete the plan and OPORD. • Junior leaders brief plan and OPORD to senior leader and OC. • Junior leaders rehearse plans with OC. • Junior leaders receive concurrence from senior OC to continue. Unit leader rehearses tasks with junior leaders. Unit leader receives senior OC approval to leave the leader training area.
5	Unit leader back briefs OC or higher headquarters on order.
6	Senior OC directs unit leader to begin unit rehearsals.

NOTE: Steps 3 and 4 can occur simultaneously.

3-5. Live Fire Exercise Pre-Combat Checks. Unit leaders will conduct a detailed final check before and during execution of training and combat operations as part of the troop leading procedures. A sample list of pre-combat checks is listed below. Modify the list to apply to the planned LFX and unit.

SAMPLE PRE-COMBAT CHECKS

- Security maintained (ground, NBC).
- Weapons, vehicles, and equipment issued and serviceable.
- Other required TADSS on hand and operational.
- Personnel attired in full field to include body armor.
- OPORD briefed. Leaders and Soldiers know the mission, commander's intent, and what is expected of them.
- Individual and small element task rehearsals conducted. Synchronization drills conducted.
- Safety checks and briefing conducted.
- Safety equipment on hand.
- Medical support present and prepared.
- Combat Life Saver Bags fully equipped.
- Environmental concerns and controls identified.
- Leaders equipment inspected (radios, digital devices, compasses, strip maps, binoculars).
- Soldiers and equipment inspected (weapons, load bearing equipment, body armor, ID tags, and so on).
- Soldier packing lists checked and enforced.

- Compasses, maps, and strip maps present (with graphics posted).
- Communications checks completed with higher, lower, and adjacent headquarters and range control.
- Class I (rations) drawn and on hand.
- Class II (general supplies) drawn and on hand.
- Class III (POL) been drawn and vehicles topped off.
- Class IV (construction and barrier materiel) on hand.
- Class V (ammunition, simulators, and pyrotechnics) drawn, issued, prepared, and accounted for.
- Class IX (repair parts) drawn and on hand.
- PMCS completed on vehicles, weapons, communications equipment, and NBC equipment.
- Vehicle load plans checked and confirmed. Cargo secured.
- Convoy route and plan briefed.
- Quartering party briefed and dispatched.
- OPFOR Soldiers deployed and ready to execute their OPORD.

3-6. Perform Rehearsal Procedures. Table 3-2 lists rehearsal procedures.

Table 3-2. Rehearsal Procedures

Step	Action
1	Unit leader conducts unit rehearsals. • Briefs the unit OPORD. • Use the crawl-walk-run training method. • Rehearses the entire unit (conduct map reviews, sand tables, radio drills, rock drills, walk throughs, dry runs, or battle drill.
2	Senior OC directs the unit leader to end rehearsals.
3	Senior OC validates unit(s) for LFX Phase or revalidates and schedules unit for re-training.

3-7. Perform Live Fire Exercise Execution Procedures. Table 3-3 lists LFX execution procedures.

Table 3-3. LFX Execution Procedures

Step	Action
1	Senior OC confirms safety and environmental considerations are met (risk assessment).
2	Senior OC directs the unit commander to execute the unit OPORD.
3	Leaders move the unit through the execution phase.
4	Unit performs tasks to desired standard.
5	OC evaluates task performance.
6	Senior OC conducts scheduled AAR at logical stop points (key task step or event completion).
7	When the task is performed incorrectly or there are safety or environmental issues, OC will: • Stop the LFX. • Conduct unscheduled AAR. • Correct errors. • Restart or resume LFX.
8	Senior OC directs the unit leader to move the unit to the formal AAR upon completion of LFX.

3-8. Perform After Action Review Procedures. Table 3-4 lists abbreviated AAR procedures.

Table 3-4. AAR Procedures

Step	Action
1	Senior OC conducts a formal AAR immediately after LFX. • OC facilitate, leaders support, and unit members actively participate in AAR. • Senior OC discusses evaluation of task performance against desired standards. • OC, OPFOR, and unit members provide feedback. ***NOTE:*** Formal AAR may be preceded by or followed by informal AAR for smaller elements, crews, or individuals.
2	If the unit is not trained to standard, the senior OC and the unit leader diagnose the training shortfalls.
3	Senior OC directs the unit leader to conduct retraining if: • The unit did not achieve the training standard. There were weaknesses in task performance the unit needs to correct.
4	The unit proceeds to the retraining area.

NOTE: Detailed AAR procedures are provided in Chapter 3 and TC 25-20, *A Leader's Guide to After Action Reviews*. Additional information is also provided in FM 7-1, *Battle Focused Training*.

3-9. Perform Retraining Procedures. See Table 3-5 for retraining procedures.

Table 3-5. Retraining Procedures

Step	Action
1	Senior OC retrains the leader if the training shortfall was a leader problem. • Correct weaknesses noted during the AAR. • Modify OPORD. • Recommend changes to tactical SOP.
2	Unit leaders conduct retraining. • Correct weaknesses noted during the AAR. • Modify tactical SOP. • Retrain (and rehearse) until the unit has improved areas of weaknesses or achieved the desired task standard.
3	Unit leaders conduct concurrent training for personnel not requiring training.
4	Senior OC directs the leader to move the unit to the assembly area or other area as appropriate.

Chapter 4

After Action Reviews

During the Viet Nam War, Specialist Fourth Class Larry D. Dahl, 359th Transportation Company, displayed all the attributes of a warrior. While serving as a machine gunner on a gun truck, Sp4 Dahl's truck was dispatched to assist in the defense of a convoy that had been ambushed by an enemy force. Entering the battle zone, Sp4 Dahl engaged in attacking enemy troops with a heavy volume of machine gun fire, causing a large number of casualties. After the firefight, an enemy soldier hurled a grenade into Sp4 Dahl's truck. Sp4 Dahl threw himself directly onto the grenade. Sp4 Dahl saved the lives of the other members of the gun truck crew while sacrificing his own.

4-1. Purpose of an After Action Review. An AAR is a professional discussion of an event, focused on performance standards, that enables Soldiers to discover for themselves what happened, why it happened, and how to sustain strengths and improve on weaknesses. It is a tool that leaders, trainers, and units can use to get maximum benefit from every mission or task. The objective of an AAR is to improve individual (including leader) and collective task performance by providing immediate feedback about how the training or tasks could have been performed better. A well-executed AAR will:

- Identify collective and individual training strengths and how to leverage them.
- Identify collective and individual training deficiencies and how to correct them.
- Reinforce and increase the learning that took place during live fire execution.
- Increase interest and motivation.
- Guide the unit towards achieving training objectives.
- Identify lessons learned so they can be applied to subsequent training or task performance.
- Increase confidence in unit leaders.
- Increase proficiency of all participants.

NOTE: The unit uses this feedback after the AAR to revise or improve SOPs, battle drills, and individual and collective task execution.

4-2. Description of the After Action Review. The AAR is a structured, interactive, group-oriented review process or teaching method that uses a question-and-answer format to evaluate task performance. The AAR encourages training participants to discover for themselves--

- What should have happened (mission or plan)?
- What actually happened (description of the event)?
- How it happened (key facts that led up to the event)?

- Why it happened (inferences about probable causes)?
- How to improve performance next time (alternative courses of action)?
- What to sustain?

4-3. After Action Review Participants. Formal AARs are normally conducted (facilitated) by OCs and supported by OPFOR and player leaders, with active participation by a unit's Soldiers. The OPFOR, players, and customer units, or their representatives, should also participate in AAR.

NOTE: For company-size AAR, insufficient space may preclude some unit Soldiers from attending. In this situation, informal AAR may be conducted prior to formal AAR to solicit feedback from unit personnel. Informal AAR may also be conducted after formal AAR to provide feedback to unit personnel.

4-4. After Action Review Participation. Participation is the key to increasing the teaching effectiveness of AAR. Participation-

- Makes Soldiers feel a part of the process.
- Increases motivation.
- Surfaces different points of view.
- Provides many sources of information.
- Creates synergism.
- Promotes unit cohesion.

4-5. After Action Review Essentials. AAR and subsequent training plans require--

- Objective appraisals and evaluations of task performance.
- Candid and constructive feedback.
- Frank and professional discussions of unit performance.
- Commitment to change and improve.

4-6. After Action Review Guidelines. OCs should use the following guidelines when conducting AARs:

- Maintain order and discipline.
- Focus on each training objective. Avoid detailed discussion of events that are not directly related to the major events, training objectives, or teaching points.
- Emphasize the goal to achieve Army task performance standards.
- Focus on Soldier, leader, and unit performance.
- Determine performance strengths and weaknesses.
- Link performance to subsequent training.

- Achieve active participation of the unit's Soldiers (self discovery).
- Address safety and environmental issues throughout.
- Make AAR positive in nature.
- OCs should Avoid--
  - Lecturing.
  - Critiquing, criticizing, or judging performance.
  - Embarrassing Soldiers or leaders.
  - Comparison of performance of specific units, although comparison of different techniques is recommended.
  - Unnecessarily long AAR.

4-7. After Action Review Techniques. OCs should apply the following techniques when conducting AARs:

- Set the tone of the AAR as a group problem-solving session among professionals. This minimizes hostility and defensiveness.
- Encourage self-discovery and self-evaluation. Have Soldiers describe what happened in their own terms and from their own point of view. Soldiers who identify what went right and wrong learn much more than when lessons are dictated.
- Generate discussion to involve all participants. Seek the maximum participation of the unit's leaders and Soldiers.
- Use terrain models, maps, diagrams, sketches, or videos to help players visualize exercise development; the sequence of events or the locations of events; unit elements; and key equipment.
- Encourage Soldiers to use diagrams or sketches to illustrate teaching points and show routes, phase lines, and objectives.
- Ask leading, thought-provoking, or open-ended questions to encourage participants to self-discover important lessons from the training event.
- Ask what went well, what went wrong, and why (sustains and improves).
- Guide discussion so the Soldiers understand how events are related to subsequent results.

4-8. After Action Report. After action reports are prepared after completion of the LFX. This report provides information such as--

- Exercise objectives.
- Exercise conditions.
- Exercise results (rating results by task "GO" or "NO GO," "train to sustain" or "train to improve").

- Unit strengths and weaknesses.
- Problems encountered.
- Lessons learned.
- Conclusion.
- Recommendations for changes in training strategy to improve or sustain LFX proficiency.

APPENDIX A

CONVOY AMBUSH LIVE FIRE EXERCISE

A-1. Purpose. This outline provides a base plan, from which commanders can design training that meets the needs of their subordinate units for conducting a CALFEX. This exercise is based on doctrine, tactics, techniques, and procedures.

A-2. Scope. This outline will assist CSS units in training to react to enemy contact while conducting a tactical road march. The CALFEX is designed to be planned and resourced at battalion/company level, and executed at company level and below.

A-3. Unit Assessment. Leaders must conduct an honest assessment along with a METL crosswalk of their unit prior to preparing for the CALFEX. This will allow the units to determine their training proficiency. The standard for the assessment should include the MTP for the unit, weapons qualification records, and CTT results. Based on the assessment, the leader determines the areas where the unit needs training prior to the CALFEX. Unit leaders must conduct periodic AARs to assess individual, crew, and leader proficiency throughout the unit qualification process.

A-4. Unit Prerequisites. Unit self-assessment should include qualification/familiarization of weapons firing in the following areas: (Completed prior to live fire exercise)

- Stationary vehicle to include at night and/or in the levels of MOPP.
- Moving vehicle to include night and/or in the levels of MOPP.
- Crew-served weapons qualification IAW STRAC.
- Crew-served weapons qualification/familiarization from a stationary vehicle to include at night and/or in the levels of MOPP.
- Crew-served weapons qualification/familiarization from a moving vehicle to include at night and/or in the levels of MOPP Crew-served and individual weapons qualification/ familiarization from a stationary vehicle to include at night and/or in the levels of MOPP.
- Crew-served and individual weapons qualification/familiarization from a moving vehicle to include at night and/or in the levels of MOPP.
- Section/platoon weapons qualification from stationary vehicles to include at night and/or in the levels of MOPP.
- Section/platoon weapons qualification from moving vehicles to include at night and/or in the levels of MOPP (Start of Live Fire Exercise).

a. Individual Weapons Qualification. All soldiers must have qualified with their assigned weapon within the last six months and must use that weapon during the CALFEX. Individual weapons training should include, but not be limited to, individual weapons qualification IAW STRAC. Soldiers should demonstrate proficiency on immediate action drills in case of weapons failure, weapons cleaning and PMCS on MILES.

b. Crew-served Weapons Qualifications. Soldiers assigned to the crew-served weapons in the unit must have qualified within the last six months prior to CALFEX. If an alternate crew is to use the weapon during any portion of the CALFEX, they must also have qualified within the previous six months. Soldiers should demonstrate proficiency on immediate action drills in case of weapons failure, weapons cleaning and PMCS on MILES.

c. Individual Warfighter Skills Training. Soldiers participating in the CALFEX should have completed their CTT within the previous six months.

d. Conduct unit STX Relocate Unit. Leaders should use the unit's situation training exercises as the crawl and walk phase. Training must be conducted to the same standards as the CALFEX minus live ammunition.

e. Night Vision Device training. All vehicle operators involved in the convoy ambush live fire exercise that will be operating their vehicle using night vision devices must be trained, tested, qualified and licensed according to regulation prior to start of live fire range operations.

f. Driver skills training. All vehicle operators involved in the convoy ambush live fire exercise will be licensed to operate respective vehicle and should have received training in off-road driving techniques, night driving techniques, operation while wearing night vision devices and operation under NBC conditions. If the vehicle is equipped with the Driver's Vision Enhancer, the same requirements are applicable.

(1) Crawl – Unit conducts situational training exercises involving scenarios that include all aspects of possible conflict with suspected enemy forces or in areas that are determined to be unfriendly. This will not include any blank or live ammunition but will serve as a walk through to identify all known possibilities of enemy threat against friendly forces. Threats against a moving convoy may include, but are not limited to, the following:

- Blocked Ambush (Daytime or Nighttime) with direct, point and area fires.
- Unblocked Ambush (Daytime or Nighttime) with direct and point and area fires.
- Snipers.
- Mines (Either command or pressure detonated).
- Improvised explosive devices (hidden in dead animals, obstacles and so on.).
- Human intervention (This may include a crowd or individuals of a hostile or desperate nature looking for food and so on).
- Suicide bombers (May include one person, or a vehicle).
- Hostile aircraft.
- Inclement weather.
- Vehicle breakdown or separation (lost).

(2) Walk – Units conducts situational training exercises as identified in the CRAWL phase but have fine-tuned the training and key leaders positions. This phase should include pyrotechnics, MILES, and blank ammunition. This event may include OC assessment of casualties and operation in a contaminated environment.

(3) Run – Unit prepares for and conducts a live fire exercise involving same scenarios as CRAWL and WALK phases but incorporates the use of live ammunition on a controlled live fire range. This event will include OC assessment of casualties once unit has completed live fire operations and operation in a contaminated environment.

g. Preparation. There are many steps in preparing for the CALFEX. Leaders should follow their unit and installation Range Control SOPs in all areas that apply. At a minimum, leaders should:

- Gain approval of scenario, safety fan and safety plan.
- Request support and attached personnel as required.
- Brief leaders and support personnel on the plan for the CALFEX and ensure that all understand the plan and their roles completely.
- Brief the unit on the scenario for and conduct of the CALFEX.
- Arrange for ammunition, OCs, support personnel, rations, and so on. to meet the unit in the Assembly area (AA) the day of the CALFEX.
- MEDEVAC procedures.
- Risk Assessment.
- Cease fire signal (visual or sound).

A-5. General.

a. Task. The live fire convoy range provides units' realistic training for convoy operations and an opportunity to employ direct and limited point and area fires in support of tactical movements. The convoy route will require units to execute live fire battle drills, fire and maneuver while mounted and dismounted. The range should accommodate a mix of supporting weapon systems. The units should be able to execute the CALFEX in 24 hours. The convoy live fire range is designed to train the CSS unit to react to enemy contact during tactical movement.

b. Conditions. A convoy will consist of a company or platoon-sized element. The battalion level commander determines the precise conditions for each CALFEX and communicates this via the operations order. Enemy threat consists of approximately squad-sized ambush forces capable of conducting blocked or unblocked ambushes using primarily small arms and light/medium machine guns. The battalion level commander determines the threat scenario for each CALFEX and publishes this in the enemy situation/Intel annex of the OPORD: A sample of threat scenarios is in paragraph A-11.

c. Standards. Execute battle drills IAW MTPs, unit METL, TSOP, and OPORD.

A-6. Range Operations.

a. Personnel Requirements.

- OIC. The OIC may be a designated officer from battalion staff.
- OC. One NCO, E6 or above, per vehicle in the convoy.
- Target Operator (as required for radio-controlled targets).
- Medics. Two medics with a dedicated evacuation vehicle. The medical evacuation vehicle as a minimum must be a Forward Litter Ambulance (FLA) and may be incorporated into the convoy.

b. Concept of Operations.

(1) Scenario. The general threat is a number of approximately squad-sized ambush forces capable of conducting blocked and unblocked ambushes using primarily small arms and light/medium machine guns.

(2) Issuance of OPORD. Prior to conducting training on the convoy live fire range; the unit will issue an OPORD covering convoy operations. The OPORD will be in the standard five paragraph format and convoy commanders briefing, which must reflect the conditions established in the scenario. At a minimum, the OPORD must address the following:

- Graphic control measures and specific times for crossing the start point and arriving at the release point.
- Reporting requirements per unit TSOP, including a requirement to report crossing of SP, crossing of checkpoints, enemy contact, and crossing RP.
- Procedures for requesting supporting fire if available.
- Procedures for evacuating casualties by both ground and air.
- Rehearsals.
- Exercise and real world radio frequencies

(3) Observer controller training. The OIC and all observer/controllers will be familiar with every aspect of the range. It is critical that every OC understands the range fans and restrictions at each enemy contact along the route. At a minimum all OC's will:

- Be familiar with the entire contents of this appendix and the range SOP.
- Drive the actual convoy route stopping at all ambush sites or enemy contacts to verify range fans for each weapon and vehicle permitted to fire in that contact. Natural terrain features will be used to mark range fans whenever possible. OC's must understand that not all vehicles can engage and be confident they know which vehicles can and cannot fire at each ambush site.
- Verify the location of all start fire lines and cease-fire lines and responsibilities at each. Weapons will not be locked and loaded until the vehicle passes the start fire line. All weapons will be cleared and placed on safe before passing the cease-fire line.
- Inspect the range for dangerous potholes, fallen trees, or washouts that might cause excessive bouncing of vehicles.
- Conduct a thorough briefing with all members of the vehicle he is riding with to ensure they understand the role of the OC and all safety requirements.
- The OIC must conduct a risk assessment prior to conducting the range.

(4) Control of ammunition and fires.

(a) The unit commander is responsible for controlling live ammunition and fires.

- He will ensure safety on the range by enforcing correct procedures for handling live ammunition, and by enforcing tactical control of direct and supporting fires by his unit.
- He will ensure that all fires and their effects remain within the limits established by range control.

- All elements of the convoy must know and rehearse ammunition-loading procedures, control of moving vehicles, control of maneuvering dismounted troops, and control of direct fires before live firing takes place.

(b) Loading and clearing weapons

- Soldiers will load weapons under the control of the NCO on their vehicle only after crossing the start fire line and being ordered to do so by the chain of command.
- First line supervisors are responsible for enforcing ammunition handling discipline within their assigned squad/section/team.
- An OC will observe all soldiers on each vehicle to ensure all safety procedures are being followed.
- A NCO will directly supervise the gunner of any vehicle-mounted weapon while moving or stationary.
- Soldiers will clear weapons when ordered to do so by the chain of command.
- An OC will verify that all weapons are cleared.
- All weapons will be cleared at the conclusion of any dismounted battle drill, and will be cleared prior to crossing the cease fire line.

(5) Dismounted Operations.

(a) The unit commander will exercise overall control of fire and maneuver during the execution of ambush reaction drills.
(b) The unit commander will do this through his first line supervisors, who will control individual movement of firing.
(c) The OIC will dismount along with the assault force and ensure all firing is within the range fans.

(6) Mounted Operations.

(a) The unit commander will designate the sectors of fire, within the specific range fan, which mounted troops may use for live fire.
(b) The maximum safe speed for the vehicle is as determined by range restrictions.
(c) An NCO will ensure that the driver avoids potholes and other rough terrain that could cause bouncing of the vehicle while fire is in progress.
(d) There will be an NCO in the rear of each vehicle to control the loading, employment, and clearing of individual and crew-served weapons during live fire.
(e) An OC will observe to ensure these actions are taking place.

(7) Obstacles.

(a) The unit using the range is responsible for obstacle emplacement to force reaction to a blocked ambush.
(b) The type of obstacle is at the discretion of the unit, but should be something easily breached in a few minutes to allow the convoy to continue (a simple string of concertina or fallen trees is adequate).
(c) Location of obstacles must be in accordance with OPORD/Range SOP. These are designated to ensure vehicles stop within the range fans for each contact.
(d) Contact is initiated by a disabled vehicle stopped within the range fans for each contact.

(e) The disabled vehicle does not need to be the lead vehicle but can be any vehicle designated by the commander and coordinated with the OCs.

A-7. Environmental Consideration. Every effort will be made to minimize damage to the environment. Established environmental regulations will be in effect during this live fire exercise.

A-8. Safety. The Unit commander or designated OIC and RSO will receive an installation or community safety briefing or course prepared according to DA PAM 385-63, *Range Safety* before obtaining commander safety certification. The safety certification will train and qualify personnel in OIC and RSO duties for firing exercises or maneuver operations. The officer in charge will be a commissioned, warrant, or noncommissioned officer in grade E6 or above. The OIC is responsible for overall safety of training and proper use of the training facility. The OIC must be weapon-system qualified and have satisfactorily completed a standard program of instruction in OIC duties. The OIC will be physically present on the training complex during training.

a. Troop Exercise Orientation. Conduct a troop exercise orientation briefing to include the purpose for the exercise, the tasks, conditions, and standards for training. The exercise orientation will culminate with the publication of the OPORD for convoy operations to include the risk assessment.

b. Troop Environmental Briefing. Conduct a troop environmental briefing that will identify the necessary precautions to preclude damage to endangered birds, and other wildlife and endangered plants. Fires will not be directed at trees nor will trees be used for targets or damaged in any way. Plants and trees are not to be used as camouflage.

c. Troop Safety Briefing. Conduct troop safety briefing and explanation of safety rules using information from range SOP and unit TSOP.

d. Control of Fire and Maneuver. The unit commander is responsible for all aspects of safe range operations including; using only those weapons and ammunition approved by range control, proper certification of the exercise by the battalion commander, proper ammunition handling, delivery of fires within established range limits, safe maneuvering of dismounted forces, safe delivery of fires from vehicles, and safe employment of supporting weapons systems.

e. Safety for Dismounted Forces. For dismounted forces ensure that elements of control and shifting of fires accordingly to account for employment of crew-served weapons, pyrotechnics, and supporting fires.

f. Safety for Mounted Forces. For mounted operations, control vehicle movement, ensure adherence to start-fire lines, cease-fire lines, proper loading and firing procedures for soldiers in moving vehicles, and the safe employment of supporting weapons systems.

g. Medical Treatment and Evacuation. Provide medical treatment and evacuation support for the operation. A rehearsal of medical evacuation procedures is required prior to going down range with live ammunition. As a minimum, medical support will include a dedicated ambulance with two medics. The ambulance and medics may be part of the convoy but will not engage in either mounted or dismounted firing.

h. NCO Chain of Command. NCOs are the primary trainers of Soldiers. Use them.

(1) Role of the Senior NCO. The senior NCOs participating in the exercise (1SG, PSG, rank of SSG and above) will assist the unit commander in controlling the fire and maneuver of his unit. Whenever possible during mounted operations, senior NCOs will perform the function as vehicle commander.

(2) Role of the Squad/Crew/Section leader. The squad/crew/section leader will be an NCO of the rank of CPL or above for all live fire operations. The NCO is responsible for ensuring that all weapons are loaded and cleared at the appropriate times and for ensuring that all soldiers deliver fires within the range fan. The OCs will assist to ensure the CALFEX is executed safely, but they are not part of the tactical chain of commend.

(3) Role of NCO for Dismounted Operations. The NCO will ensure that he can physically see each of his soldiers at all times and can issue appropriate fire commands to them. He will control the fire and maneuver of his soldier in accordance with orders received from the chain of command. He will ensure that he does not maneuver his soldiers in front of supporting fires or deliver fires into another maneuvering element.

(4) Role of NCOs for Mounted Operations. The vehicle commander will ensure safe movement of the vehicle and safe employment of vehicle-mounted weapons. The NCOIC of soldier will ensure proper ammunition handling; observance of start-fire and cease-fire lines, and deliver of fires within range fans.

A-9. Support Requirements.

a. Purpose of Support. The purpose of this paragraph is to outline proposed support requirements for units conducting a CALFEX.

b. See Table A-1 for a list of potential personnel requirements for executing a CALFEX.

Table A-1. Potential Personnel Requirements

Personnel	Number	Remarks
OIC	1	Range certified.
RSO	1	Range certified.
NCOIC	1	Range certified.
Tower NCO	1	Range certified.
Ammo NCO	1	Range certified.
Ammo detail	1	HAZMAT endorsed license, ammo handler certified.
Target detail	1	As appropriate to sufficiently control live ammunition.
Target operator	1	Range certified.
Range support detail	TBD	As appropriate to sufficiently support range operation.
MEDIC	1	MOS 91W.
Front Line Ambulance driver	1	MOS 91W.
Road guards	4	As appropriate to support range operation and unit traffic patterns.

Table A-1. Potential Personnel Requirements (continued)

Personnel	Number	Remarks
Armorer	1	
Range Entry NCO	1	
OC/Safety	12	As appropriate to sufficiently conduct multiple platoon/iterations continuously.
Mechanic	1	As appropriate to support range operation.
Concurrent training NCO	1	As appropriate to support range operations.

c. Equipment requirements. Table A-2 lists potential equipment requirements for executing a CALFEX.

Table A-2. Potential Equipment Requirements

Equipment	Remarks
Weapon ring mounts	As assigned per vehicle
Radios	As required
Tents	As required
Camouflage screen	As required to cover tentage
Camouflage supports	As required to cover tentage
Armorer tool kit	As required
Mechanic tool kit	As required
Water trailer	As required
Range support vehicles	As required
Unit CALFEX vehicles	As required
Front Line Ambulance	As required
Combat Lifesaver Bag	As required

d. Additional equipment requirements. Table A-3 lists additional equipment requirements for executing a CALFEX.

Table A-3. Additional Equipment Requirements

Equipment	Remarks
Class I	As required
Class III	As required
Concertina wire	As required
Body armor	As required
Field latrine	As required
Hand washing station	As required
Breach Kits	One per platoon
Landing Zone Marker, VS-17	One per platoon and one per LZ/PZ

e. Miscellaneous equipment requirements. Table A-4 lists miscellaneous equipment requirements for executing a CALFEX.

Table A-4. Miscellaneous Equipment Requirements

Fire extinguisher(s)	As required/ per vehicle
Bull horn	As required
Magazines	As required
Oil	As required
Clearing rods	As required
Ear plugs	As required
Batteries	As required
Table	As required
Chairs	As required
Map Boards	As required
Easels	As required
Sand table kit	As required

f. Use of Organic Assets. Unit will use organic equipment to execute the CALFEX to emphasize soldier familiarity with their equipment and support the train-as-you-fight concept.

g. Ammunition requirements. Table A-5 depicts a suggested amount of ammunition to be used to support the CALFEX.

Table A-5. Suggested Amount of Ammunition

***AMMUNITION ALLOCATIONS FOR LIVE FIRE EXERCISE**					
Per Training Year					
Event	DODIC	Rounds	Frequency	Frequency	Frequency
			Active Army	Reserve	Guard
M16/M4	A059/A063	130/20	1	1	1
M203 GL	B519	4	1	1	1
M249 Light Machine Gun	A064	300	1	1	1
M249 AR	A064	300	1	1	1
M60 Machine Gun / M240B Machine Gun	A131	300	1	1	1
M2 .50 Caliber Machine Gun	A557	100	1	1	1
MK-19 Grenade Machine Gun	B584	30	1	1	1

* Data Extracted from DA Pam 350-38 Standards in Training Commission (STRAC).

A-10. Sample Convoy Ambush Live Fire Exercise.

a. Staging Area**.** Vehicle convoys will be staged in range assembly/AAR area upon entry. Follow instructions of range cadre. Company commander will breakdown assets into squad sized elements of no more than 6 vehicles per serial/march units. This area will also be

used as an immediate after action review point for each squad that has completed each table of fire. Local range layout/size and/or unit commander will dictate size (number of vehicles) of convoy serial/march units.

b. Concurrent Training. Upon completion of range orientation and safety briefing, concurrent training will be conducted. Only one company-sized element will be allowed on the range at a time. Concurrent training will involve the following areas:

- Sand table/rock drill layout of exercise by platoon
- Active defense measures with crew-served weapons in a convoy. Weapons include:
  - MK-19, M2 .50 Cal MG, SAW (M240)(Any other weapon system of this category identified)
- Active defense measures with individual weapons in a convoy. Weapons include all models of M16 and any other individual weapons identified. (Excluding M9)
- Platoon PCC and MILES orientation and issue
- Obstacle clearance

c. Ammunition Point. Ammunition point will be centrally located within the live fire range according to established layout standards. Issue of ammunition will be in accordance with the unit and range directives in turn to support exercise. Ammunition requirements are IAW DA PAM 350-38, *Standards in Training Commission*.

d. Exercise layout

(1) Structure. This exercise will consist of four tables of action conducted only as a collective convoy element. Each table will consist of varying conditions requiring the soldiers to react to and engage targets with individual and crew-served weapons organic to the unit. Convoys will be comprised of the same elements that would normally be required in a wartime situation. Designing convoys around a single type of vehicle in order to accommodate only crew-served mounted weapons is not realistic.

(2) Use of organic assets. These convoy live fire exercises are designed to employ the unit's organic equipment and weapons that will be used for tactical convoys on the battlefield. We should train as we fight and place emphasis on tactical conditions and situations that generate immediate responses from all elements within the convoy. Reactions must be deliberate and accurate. Safety is a PRIMARY concern on any live fire exercise. All range operations will strictly adhere to established safety requirements. ANYONE can stop an unsafe act.

e. Exercise Outline

(1) Live Fire preparations. Concurrent training will be conducted involving all weapon systems used on the range. Established range safety regulations and operational guidelines are in effect and will be followed. Concurrent training will be conducted as outlined below.

(2) Concurrent training/unit orientation

- ALL- Range safety orientation. Establish and relay methods of range communications via radio, visual signals (hand and arm or pyrotechnic). All other range safety guidelines are disseminated to maneuver unit.

- By PLT – Sand table – This will involve a dry run executing OPORD information regarding convoy mission and terrain. All convoy chain of command is involved.
- By PLT – Crew-served weapons
  Supporting Individual Tasks – See Annex A of Appendix A.
- By PLT – Individual weapons
  Supporting individual tasks – See Annex A to Appendix A.
- By PLT – Platoon PCCs and MILES installation and preparation (If OPFOR is employed).
  - Trip flares/whistling devices
  - MILES fire-back device (MG simulator)
  - See Annex B of this appendix

(3) Exercise communications

- Exercise units will have established tactical radio networks that identify all convoy elements, chain of command, higher headquarters elements and range control.
- Visual hand and arm signals will be established and practiced prior to start of exercise (Local SOP).
- Pyrotechnic signals (if used) will be identified and disseminated to convoy elements prior to start of exercise.

(4) Table 1 – Daytime Ambush Roadway Blocked (Start, Live Fire Exercise). Units are armed with live ammunition for individual and crew-served weapons. Units will engage targets that appear to threaten convoy elements. Units will follow explicit instructions from range cadre and follow radio guidance from serial commander. Units will engage the enemy elements in the following stages.

- Stage 1 – Perform communications checks, conduct convoy briefing, cross start point, and establish convoy speed and intervals, complete SP report.
- Stage 2 – During movement, receive FRAGO concerning enemy activity, adjust convoy posture, and proceed with caution.
- Stage 3 – React to ambush by engaging targets using direct-fire individual and crew-served weapons on right flank of convoy (blocked) as directed. Bring sustained fires on the enemy force according to established guidance, the situation, or orders/commands. Convoy maneuvers into herringbone formation while stopped, rural setting. Convoy continues to engage with organic weapons. Convoy breaches obstacle and regains movement.
- Stage 4 - Safe Zone – Weapons at safe THEN oriented at "0" straight ahead position. Serial commander assesses casualties, equipment damage, and makes appropriate reports. Units will receive a message directing increase in MOPP posture to level 4. Continue mission as directed over range route to circle and reenter engagement area.
- Stage 5 – React to urban ambush by engaging left flank of convoy direction (blocked) as directed. Convoy maneuvers into herringbone formation while stopped. Convoy is operating in urban setting. Convoy breaches obstacle, and regains movement. Urban setting.
- Stage 6 - Safe Zone – Weapons placed on SAFE THEN oriented to "0." Convoy reorganizes, serial commander assesses casualties, equipment damage, and makes appropriate reports and continues the mission.
- Stage 7 – Convoy receives sniper fire from location ahead. Sniper location is identified and convoy element leader radios designated gun truck(s) to engage with

crew-served weapons. All other convoy elements continue as directed providing sustained fires (if threat location is known) as directed. Convoy element leader submits report to higher headquarters.

- Stage 8 – Range safety officer designates casualties to convoy elements, ensures all weapons are on safe and cleared. Directs convoy vehicles to move off range into casualty treatment/assembly/AAR areas.
- Stage 9 - Conduct self-assessment and AAR. Critiques should be based on observation of preparation, command and control, movement techniques, actions on contact and compliance with unit TSOPs.

(5) Table 2 – Daytime Ambush Roadway Not Blocked. Units are armed with live ammunition for individual and crew-served weapons. Units will engage targets that appear to threaten convoy elements. Units will follow explicit instructions from range cadre and follow radio guidance from serial commander. Units will engage the enemy elements in the following stages.

- Stage 1 – Perform communications checks, conduct convoy briefing, cross start point, and establish convoy speed and intervals, complete SP report.
- Stage 2 – During movement, receive FRAGO concerning enemy activity, adjust convoy posture, and proceed with caution.
- Stage 3 – React to ambush by engaging targets using direct fire individual and crew-served weapons on right flank of convoy (unblocked) as directed. Bring sustained fires on the enemy force according to established guidance, the situation, or orders/commands. Convoy continues to engage with organic weapons on point and area targets of opportunity in-turn.
- Stage 4 - Safe Zone – Weapons at safe THEN oriented at "0" straight ahead position. Serial commander assesses casualties, equipment damage, and makes appropriate reports. Unit receives message traffic directing increase in MOPP posture to level 4. Continue mission as directed over range route to circle and reenter engagement area and engage targets to the left flank.
- Stage 5 – React to ambush by engaging left flank of convoy direction (unblocked) as directed.
- Stage 6 - Safe Zone – Weapons placed on SAFE, THEN oriented to "0". Convoy reorganizes; serial commander assesses casualties; equipment damage; and makes appropriate reports and continues the mission.
- Stage 7 – Convoy receives sniper fire from location ahead. Sniper location is identified and convoy element leader radios designated gun truck(s) to engage with crew served weapons. All other convoy elements continue as directed providing sustained fires (if threat location is known). Convoy element leader submits report to higher headquarters.
- Stage 8 – Range safety officer renders casualties to convoy elements, safes and clears all weapons and directs convoy vehicles to move off range into casualty treatment/assembly/AAR areas.
- Conduct self-assessment and AAR. Critiques should be based on observation of preparation, command and control, movement techniques, actions on contact and compliance with unit TSOPs

(6) Concurrent Transition Training for Night Time Tables

- Night time safety briefing
- NVD/DVE orientation

- Movement techniques during night time convoy
- Night vision transition orientation

(7) Table 3 – Nighttime Ambush Roadway Blocked. Units are armed with live ammunition for individual and crew-served weapons. Units will engage targets that appear to threaten convoy elements. Units will follow explicit instructions from range cadre and follow radio guidance from serial commander. Units will engage the enemy elements in the following stages.

- Stage 1 – Perform communications checks, night vision device checks, donning of night vision devices, conduct convoy briefing, initiate movement (SP), and establish convoy speed and intervals, complete SP report.
- Stage 2 – During movement, receive FRAGO concerning enemy activity, adjust convoy posture, and proceed with caution.
- Stage 3 – React to ambush by engaging targets using direct fire individual and crew-served weapons on right flank of convoy (blocked) as directed. Convoy maneuvers into Herringbone formation while stopped. Bring sustained fires on the enemy force according to established guidance, the situation, or orders/commands
- Stage 4 - Safe Zone – Weapons at safe THEN oriented at "0" straight ahead position. Serial commander assesses casualties, equipment damage, and makes appropriate reports. Units will receive message traffic directing increase in MOPP posture to level 4. Continue mission as directed over range route to circle and reenter engagement area and engage targets to the left flank.
- Stage 5 – React to ambush by engaging left flank of convoy direction (blocked) as directed. Convoy maneuvers into herringbone formation while stopped.
- Stage 6 - Safe Zone – Weapons placed on SAFE THEN oriented to "0". Convoy reorganizes, serial commander assesses casualties, equipment damage, and makes appropriate reports and continues the mission.
- Stage 7 – Convoy receives sniper fire from location ahead. Sniper location is identified and convoy element leader radios designated gun truck(s) to engage with crew-served weapons. All other convoy elements continue as directed providing sustained fires (if threat location is known). Convoy element leader submits report to higher headquarters.
- Stage 8 – Range safety officer renders casualties to convoy elements, safes and clears all weapons and directs convoy vehicles to move off range into casualty treatment/assembly/AAR areas.
- Stage 9 - Conduct self-assessment and AAR. Critiques should be based on observation of preparation, command and control, movement techniques, actions on contact and compliance with unit TSOPs

(8) Table 4 – Nighttime Ambush Roadway Not Blocked. Units are armed with live ammunition for individual and crew served weapons. Units will engage targets that appear to threaten convoy elements. Units will follow explicit instructions from range cadre and follow radio guidance from serial commander. Units will engage the enemy elements in the following stages.

- Stage 1 – Perform communications checks, conduct convoy briefing, initiate movement (SP), and establish convoy speed and intervals, complete SP report.
- Stage 2 – During movement, receive FRAGO concerning enemy activity, adjust convoy posture, and proceed with caution.
- Stage 3 – React to ambush by engaging targets using direct-fire individual and crew-served weapons on right flank of convoy (unblocked) as directed.

- Stage 4 - Safe Zone – Weapons at safe THEN oriented at "0" straight ahead position. Serial commander assesses casualties, equipment damage, and makes appropriate reports. Units will receive message traffic directing increase in MOPP posture to level 4. Continue mission as directed.
- Stage 5 – React to ambush by engaging left flank of convoy direction (unblocked) as directed.
- Stage 6 - Safe Zone – Weapons placed on SAFE THEN oriented to "0," straight ahead position. Convoy reorganizes; serial commander assesses casualties, equipment damage, and makes appropriate reports. Continue mission as directed over range route to circle and reenter engagement area and engage targets to the left flank.
- Stage 7 – Convoy receives sniper fire from location ahead. Sniper location is identified and convoy element leader radios designated gun truck(s) to engage with crew served weapons. All other convoy elements continue as directed providing sustained fires (if threat location is known). Convoy element leader submits report to higher headquarters.
- Stage 8 – Range safety officer renders casualties to convoy elements, safes and clears all weapons and directs convoy vehicles to move off range into casualty treatment/assembly/AAR areas.
- Stage 9 – Conduct self-assessment and AAR. Critiques should be based on observation of preparation, command and control, movement techniques, actions on contact and compliance with unit TSOPs.

A-11. Sample Convoy Live Fire Exercise Scenarios.

a. Scenario: The unit is relocating to a new area of operations. The unit commander has radio communications with higher HQ and fire support element. The unit commander has received intelligence reports from higher HQ stating that "enemy activities" have been reported near grid coordinates _____ and to proceed with caution. The threat is capable of launching ground, air, and indirect fire. The convoy is armed with organic weapons systems. Intercepted enemy communication indicates that convoy may be targeted. Convoy may be expected to engage stationary and moving enemy targets. Higher HQs and unit tactical SOPs are available. This task can be performed in various level of MOPP. The unit will employ immediate action drill to respond and repel enemy forces without causing harm or injuries to soldiers and damage to equipment IAW higher HQ and unit commander guidance.

b. Scenario: While en route to Ramadi, you receive a radio message from higher HQ stating that intelligence reports indicate that a squad size element has been spotted in your vicinity and you are to proceed with caution. While alerting your unit to increase situation awareness, the convoy is hit with sniper fire from an unknown location. **(Unblocked sniper)**

c. Scenario: The unit is operating in an urban area when it receives an OPORD from higher HQ to conduct an emergency resupply mission to a company. The convoy must immediately cross SP from their current location to a designated LRP. While en route, the convoy commander receives a message for higher HQ stating that the unit's location has been hit with chemical agents. The convoy commander directs his convoy to take the appropriate actions and continues with the mission. While the convoy is passing checkpoint 2, the convoy receives enemy fire. **(Unblocked NBC)**

d. Scenario: The unit is operating in an urban area the commander receives updated reports stating that seven convoys have been attacked and to proceed with caution. The convoy commander directs his convoy to increase situation awareness. The convoy commander spots seven civilians standing along side of the road and he directs his gun truck to move to safe distance and keep the civilians under observation until the convoy safely passes through the area. The convoy arrives at its second rest stop. While the convoy is stopped the enemy initiates an ambush. **(Unblocked)**.

e. Scenario: The unit commander receives a radio message from higher HQ to send six trucks to grid coordinates_____ to transport remains. The unit commander designates the 1st platoon to execute the mission. The platoon sergeant has directed the 2nd squad leader to assemble his squad with vehicles to support the mission. The squad leader has conducted his pre-combat checks and briefs his squad on the mission. The platoon sergeant will serve as the convoy commander. The convoy SPs from their current location while en route the third vehicle in the convoy breakdowns. While it is being recovered the convoy takes sniper fire. **(Unblocked)**

f. Scenario: The unit is preparing to conduct a convoy at night to resupply Delta Company. The convoy has been organized and the convoy commander has conducted his pre-combat checks and safety briefing. While en route to the Delta Company location, the convoy encounters an obstacle in the road, which appears to be a dead camel. While the convoy is stopped, the enemy initiates what appears to be an improvised explosive device hidden in the carcass resulting in two wounded. **(Blocked)**

g. Scenario: As the convoy passes through an urban area it receives incoming fire from rocket-propelled grenades that hits a vehicle near the front of the convoy. As soon as the convoy stops the enemy initiates an ambush. **(Blocked)**

h. Scenario: While en route the convoy commander receives a radio message from 3rd platoon that the convoy is being attacked and two vehicles are caught in the kill zone. **(Blocked)**

ANNEX A

BATTLEFIELD OPERATING SYSTEMS/TRAINING ENHANCERS

References: FM 7-0, *Training the Force*; FM 7-1 *Battle Focused Training*; TC 7-9 *Infantry Live Fire Training*

1. Purpose. The purpose of this annex is to outline the goal for incorporating the battlefield operating systems and training enhancers into the CALFEX.

2. General. CALFEXs will closely replicate battlefield conditions whenever possible. These conditions will develop confidence and esprit, as well as reinforce soldier, leader, and unit discipline.

3. Conducting Convoy Ambush Live Fire Exercise. Combined Arms CALFEXs should be conducted to train on the coordination and control measures required to effectively synchronize combat power on the battlefield.

4. Area Training. CALFEXs will provide realistic training on collective and soldier skills in such areas as--

a. Fire control and distribution.
b. Command and control in a noisy, confusing environment.
c. Individual movement techniques.
d. Integration of all fire support assets.
e. Small-unit tactics.
f. Weapons, demolitions, and other pyrotechnics not used in other exercises.
g. Safety awareness.

5. Trains As You Fight. The goal of combat-level training is to achieve combat-level standards. Every effort must be made to attain this difficult goal. Leaders must ensure that soldiers are trained to cope with the complex, stressful, and lethal situations they will encounter in combat.

6. Train To Challenge. Tough, realistic, intellectually and physically challenging training builds competence and confidence by developing and honing skills. Challenging training inspires excellence by fostering initiative, enthusiasm, and eagerness to learn.

7. Trains As Combined Arms And Services Team. Each unit must be prepared to execute combined arms and services operations without additional training or lengthy adjustment periods. Combined arms proficiency develops when platoon/squad/section/teams train together. Leaders must regularly practice cross attachment of combat, combat support and combat service support units.

8. Battlefield Operating Systems. The seven battlefield operating systems (BOS) are the major functions that occur on the battlefield and must be performed by the CSS unit to successfully execute operations. The BOS are used to systematically ensure that all elements of the organization's combat power are directed toward accomplishing the overall mission.

a. Intelligence
b. Maneuver.
c. Fire support.
d. Mobility/countermobility/survivability.

e. Air defense.
f. Combat service support.
g. Command and control (C2).

9. Integrate The BOS. Tasks will be included in the unit's overall CALFEX concept. The following list is descriptive, not prescriptive.

a. Call for Fire
b. CASEVAC
c. Obstacles
d. Vehicle recovery
e. Communications Net
f. NBC
g. Passive air defensive measures
h. Mines
i. Sniper

10. Training Enhancers. Leaders must seize every opportunity to fire weapons, maneuver as combined arms team and incorporate protective measures against enemy actions. They do this by integrating realistic conditions into training, such as--

a. Loss of key leaders.
b. Smoke.
c. Casualty evacuation.
d. Use of fire support.
e. Noise.
f. Simulated nuclear, biological, chemical (NBC) situations.
g. Battlefield debris.
h. Limited visibility (night).
i. Loss or jamming of communications.

NOTE: Leaders must ensure realistic training is safe. Safety awareness protects combat power. Within the confines of safety and common sense, leaders must demand realism in training.

ANNEX B

CONCEPT OF THE OPERATION

1. Purpose. The purpose of this annex is to outline the tasks, scheme of maneuver, and safety precautions for CSS units conducting CALFEX. This concept provides guidance for the physical layout and conduct of a CALFEX.

2. Concept of Operation. The CALFEX is designed to provide realistic training for platoon level command/control and reaction to contact leading up to and culminating in a CALFEX. This concept of the CALFEX is provided as a guide for unit leaders to plan, prepare, and execute a CALFEX. Commanders will assess their units and develop a CALFEX to enhance their unit's capability to execute METL required tasks.

3. General. The CALFEX Range will provide the unit realistic training for convoy operations and an opportunity to employ direct fires in support of tactical movements. The route allows the unit to execute live fire battle drills, mounted or dismounted. The inherent dangers of the range make it vitally important that all possible safety measures be carefully followed.

4. Training. The CALFEX Range will facilitate use of the following collective tasks*:

a.	Maintain Treat Casualties	08-2-0003.63-0001
b.	ITV, Redirect Operators, And Provide Commitment Using MTS	55-2-0016
c.	Plan a Unit Move	63-2-4001
d.	Prepare Unit to Move	63-2-4002
e.	Conduct a Tactical Road March	63-2-4003
f.	Cross a Radiologically Contaminated Area	63-2-4005
g.	Defend Convoy Element	63-2-4006
h.	Perform Operational Decontamination	63-2-4019
i.	Cross a Chemically Contaminated Area	63-2-4226
j.	Transport Casualties	63-2-4316
k.	Respond to a Chemical Attack	63-2-4334
l.	Perform Unit Level Maintenance	63-2-4552
m.	Breach Obstacle	071-326-0503
n.	Employ Fire Support	061-283-6003
o.	Consolidate	O3-3153.00-0028
p.	Reorganize	O3-3153.00-0028

*CASCOM proponent collective tasks may be found in CSS unit MTPs and are identified by the first two numbers of the task. Other proponent collective tasks may be obtained from the proponent school.

5. Objective Sketch. Example illustrations of engagement areas for conducting LFX range are attached at the end of this appendix.

6. Concept of Operation (Example).

a. Scenario:
   (1) METL Task: Protect the Force
   (2) Mission: Relocate Unit to New Operating Site, or Conduct [unit specific logistical function] in support of logistical plan (for example: Provide Truck Transportation)

(3) The detachment is deployed in a combat zone.
(4) Pertinent maps and overlays are available.
(5) The OPFOR is capable of launching air or ground attacks, employing NBC agents and engaging in EW.
(6) CAS sorties and indirect fire support have been allocated, but with low priority.
(7) This exercise is conducted in all environment conditions.

b. Scheme of Maneuver.

(1) Assembly Area. At the completion of the safety briefing and range orientation, the key leaders will conduct a leader reconnaissance of the route. Then, the OC, acting as the higher unit commander, gives the convoy leader an oral fragmentary order, which requires the convoy leader to conduct a tactical road march from designated SP to RP. The unit receives a warning order in the assembly area and prepares for a tactical road march. The convoy leader issues his operation order (convoy brief) using a sand table and a map to squad leaders. In the assembly area, the NCOIC issues ammunition to the squads and prepares the platoon for the convoy movement. Vehicles are hardened for possible contact and force protection.

(2) Movement. The march commander initiates the convoy. The unit moves mounted from a tactical assembly area and crosses the SP by designated time. After the unit crosses the SP, they may engage targets as they appear (maintaining a left limit and a right limit specified by the range fan specific for range and engagement area). The units will travel along the march route until they reach the RP. The march commander maintains communication with higher headquarters and control of march element.

(3) Contact. The convoy will make contact at three separate locations along the march route. The march commander directs march element under attack to employ correct protective measures as prescribed in higher headquarters movement order and TSOP. The march commander will forward SITREPs to higher headquarters, employ fire support, evacuate casualties, and reorganize IAW the unit TSOP.

(a.) The convoy will encounter an ambush (road not blocked).
(b.) The convoy will encounter an ambush (road blocked). The march commander will supervise the hasty dismount, suppression of the enemy, and breach of the obstacle.
(c.) The convoy will encounter a third ambush created from a prolonged unanticipated halt. The lead vehicle in the convoy suffers mechanical failure (bypass will not be possible). The march commander supervises clearing the roadway and cross loads personnel and equipment. A small enemy element sets up and initiates a hasty ambush due to the long halt.

(4) Change of Mission. Once the convoy reaches the RP, the company commander relays "change of mission" to the platoon leader and the entire element locks and clears all weapons. Once all weapons are clear and on "safe", the platoon conducts a non-tactical road march to the ammunition collection point and AAR site.

c. Timeline (example).

Unit 1	Unit 2	
0800 - 0900	0800 - 0900	Movement to range
0900 – 0945	0900 - 0945	Range orientation/safety briefing Key leader terrain walk
0945 – 1030	0945 - 1030	Occupy assembly area/construct sand table
1030 – 1100	1030 - 1100	Issue OPORD
1100 - 1200	1215 - 1315	Issue ammo and pyrotechnics
1200 - 1215	1315 - 1330	Move to SP
1215 - 1330	1330 - 1445	Admin crawl/walk phases (with blanks)
1330 - 1400	1445 - 1515	Down load unexpended ammo and pyrotechnics (transition for live / ammo shakedown)
1400 - 1445	1515 - 1600	Conduct AAR
1445 - 1500	1600 - 1630	Upload live ammo/pyrotechnics (or blank for retraining)
1500 - 1515	1630 - 1645	Move to SP
1515 – 1630	1645 – 1800	Run phase (with live)
1630 - 1700	1800 - 1830	Down load unexpended ammo and pyrotechnics (transition for departure / ammo shakedown)
1700 - 1745	1830 - 1915	Conduct AAR
1800 - 1900	1915 - 2015	Police range

* Events will be trained to standard, not time limitations. The time required to train an event will vary based on METT-TC factors and training proficiency of the unit.

7. Safety.

a. Safety officer/controller is assigned to each squad/vehicle where the safety can immediately take corrective action if a dangerous situation occurs. The unit chain of command retains their normal tactical command and control of the element. The safety/controller intervenes only to avert a potential safety hazard or violation.

b. Units must emphasize proper muzzle awareness, use of the safety selector switch, and the position of the trigger finger when not firing.

8. AAR. Critiques should be based on observation of preparation, command and control, movement techniques, actions on contact and compliance with unit TSOPs.

ANNEX C

SAFETY

References: DA PAM 385-63, *Range Safety;* Installation Range Regulation; TC 7-9, *Infantry Live Fire Training.*

This annex provides example recommendations, weapons training safety, briefings, and incident report formats for use on a live-fire range. These are meant to be used as a guide and must be modified to fit Army and installation safety regulations.

In order to train to combat readiness, the chain of command must act as CALFEX safety officers. As in combat, the chain of command may have to halt the move if certain safety concepts are violated. Once the problem is resolved, the unit can continue the operation. The unit's command net should also be the safety communications net.

1. Risk Assessment. Risk assessment is the process of identifying the risks associated with an operation and weighing those risks against the overall training value to be gained. Leaders must assess the risk of all training as a part of pre-execution checks. Proper risk management makes safety a part of the mission. It is a way of getting the mission done with the least possible risk to soldiers and equipment.

a. The simplest method of identifying risks is the use of a risk matrix (See App D of the Handbook). The risk matrix gives the leader an overview of the inherent risks of the operation. Different missions will involve different elements that can affect mission safety. Planning, supervision, soldier endurance, soldier selection, weather, mission complexity, and equipment have historically proven to be central causes of accidents. Using matrixes to assign a numerical value to each of these elements is one way of quickly determining the risk associated with a particular mission.

b. Risk may be assessed by measuring the various risks present in the operation, combining their values, and then making a judgment as to the safety precautions that are appropriate in the given situation. By arriving at a total risk value, the leader can determine if the proposed method of conducting a mission falls within acceptable risk parameters. He can then change one or all areas of the operation to reduce the total risk value. As a minimum, he will know whether or not his soldiers are functioning in a high-risk environment.

c. In addition to the general perspective, leaders need to detect specific hazardous situations; for example, dangerous artillery support plans, specific hazards of a river crossing. The hazard assessment provides this detail. Hazard assessment is the initial examination of an operation's hazards and their implications. It is normally based on the mission analysis and takes place before the details of an operation have been completely defined. Hazard assessment has one objective. It defines at the earliest possible stage what hazards can be expected in each of the major operational phases. Hazards can be dealt with if assessed early when the operation is still being planned. This assures that hazard controls can be developed and implemented as the operation evolves.

d. The use of risk matrices and hazard analyses define the kinds and significance of hazards faced in an operation. The task then is to reduce the risk without significant adverse impact on the operation.

e. A countermeasure checklist can be directly applied to the development of risk-reduction options. It can be used to develop a full array of possibilities and reject those that are clearly impractical. The product of the risk-reduction phase should be a list of options that are practical, although not necessarily desirable, for the particular operation.

f. The basic assessment elements can be adapted to fit organizational needs. Additional matrix charts that blend in special considerations can be developed.

g. The key to risk management is not accepting preventable risks. Preventable risks are those that can be reduced or eliminated using available resources and technology without disrupting the mission.

h. Changes in training progress and conditions must be continually assessed during training and appropriate corrective actions taken as these conditions affect the level of risk.

2. Safety Recommendations. The following are some safety recommendations for use on live-fire ranges. They are not for use on all ranges, but must be considered when planning a CALFEX. Remember, even though safety is important, the primary focus is the establishment of a well organized, realistic CALFEX.

a. Protective Jackets/Vests, Eye Protection**.** Using protective jackets/vests and ballistic goggles (if available) on live-fire ranges greatly enhances safety. They may be worn in time of war, so soldiers should get used to fighting with them on. Earplugs may be worn on special occasions, but the commander should consider this in his risk assessment--not hearing a command could get someone killed. The decision to wear such protective equipment is based on the commander's assessment of METT-TC, his risk analysis, and the weather. Protective jackets provide extra protection against small arms fire and fragmentation.

b. MILES Harnesses. All soldiers to enhance both safety and realism can wear MILES harnesses. Safety personnel can shoot controller guns at soldiers who are either using improper individual movement techniques or who are safety hazards.

c. Safety Signals. Safety signals must be planned so that everyone on the range can see them. While a red star cluster can be seen on a clear night, it probably will not be seen when fired during the day toward the sun. A minimum of one back-up signal and continuous communications between all safety personnel must be planned. The command frequency (the frequency that the live-fire unit is using) is used to signal cease fire.

d. Night Fire. Night firing creates additional safety considerations because of the reduced visibility. At a minimum, all safety personnel, leaders, and machine gunners must have night vision goggles or sights. Compasses should be preset on their luminous points. Commanders should consider marking firing limits based on terrain, visibility, and the level of training his unit has achieved.

e. Smoke. The use of smoke can add realism to any range but must be employed carefully. Before beginning the CALFEX, a rehearsal is conducted using smoke to determine what effect it has on visibility. The support position must be able to observe the movement of the assault force. Too much smoke can create a safety hazard that could overcome the benefits of its use.

f. Briefbacks. Conducting thorough briefbacks allows leaders to avoid hazards caused by poor planning and communications. Briefbacks should occur frequently during planning and execution of the CALFEX.

3. Weapons And Pyrotechnics Proficiency Training. Training should be conducted on all weapons and pyrotechnics that will be used on the live-fire mission. All individual gunners who will take part in CALFEXs must have fired and passed a qualification course for the crew-served weapon assigned to them. All personnel who will fire a weapon in the exercise must have fired, as a minimum, a familiarization course with that weapon. Training should include demolitions, grenades, Claymore mine simulators, and any other devices that could also be used on the range.

a. Support positions for raids should be on terrain that has cover to the flank (if possible) and does not allow M60/M240 machine gun fire to go in the direction of the assault line. If such a position is not available, a berm can be constructed and camouflaged.

b. Hand-held flares and star clusters that are used for signaling or illuminating must be handled with extreme caution. Instruction should be given to those members of the unit who will use these pyrotechnics.

c. Individual movement techniques (IMT) training should be given to all CALFEX participants. Weapons proficiency training should be incorporated with emphasis on reducing stoppages (immediate action); magazine exchange (M16A1/A2); loading and firing the M203, M60/M240, and M249 machine gun; and sub-caliber rounds for the antitank weapons. Fire and movement rehearsal should be extensive during training with both officers and NCOs emphasizing muzzle control of weapons at all times. Continual reminders to put weapons on safe before moving and to note the whereabouts of other individuals in the area are aspects of safety critical for both live-fire operations and combat.

(1) The movement of buddy teams, fire teams, and squads should be trained progressively and in detail with emphasis on control of elements. Training by platoon and squad leaders in arm-and-hand signals, visual signals (such as pyrotechnics), and whistles is critical. Leaders find it extremely difficult to communicate orally due to excessive levels of noise during CALFEXs and force-on-force operations. Leaders at all levels must retain control of their elements at all times throughout the conduct of the live-fire mission.

(2) The fire-team leader is the foundation of fire and movement. Based on the premise that the members of the fire team follow the fire-team leader and "do as he does," this leader's actions are critical to the success and safety of live-fire missions. Assigning numbers to team members can be used as a fire control measure. For example, the team leader is one, the automatic rifleman is two, the grenadier is three, and the rifleman is four. The team leader can then simply refer to the team member's number if he wishes him to initiate a 3- to 5-second rush. All soldiers should stay alert to the actions of fellow team members and squads to their left and right. Anticipating actions on the battlefield gives units the ability to remain flexible.

4. Weapon-Handling Procedures. The following guideline describes procedures and requirements for handling all organic and special operation weapons. These procedures are based on lessons learned from the Operation Iraqi Freedom and are designed to prevent safety-related accidents and fratricide. They are intended for use in both training and combat and apply to all assigned weapons of a unit. In all cases, strict supervision is critical for the safe handling of weapons. For training purposes, the chain of command will include range cadre.

a. Procedures. The procedures for weapons handling may vary based on METT-TC. The following procedures are strongly recommended:

(1) Upon issue, all weapons are immediately cleared and placed on "safe" IAW appropriate Field Manual or Soldier's Manual.

(2) Weapons always remain on "safe." The only exceptions to this policy are--
(a) When weapons are stored in an arms room.
(b) Immediately before target engagement.
(c) When directed by the chain of command.

(3) Weapons should be handled as if they are loaded at all times. Weapons are never pointed at an individual unless a life-threatening situation justifies the use of deadly force. Soldiers must always be aware of the muzzle direction of their weapon and of the weapons status; for example, loaded/safe.

(4) Magazines/belts are inserted in weapons upon the direction of the chain of command.

(5) AR 385-63, *Range Safety* should be reviewed by the unit's leaders before range firing/qualification.

b. Load and Chamber Procedures (Lock and Load). The chain of command determines when to load the weapon and chamber a round in reference to mission, enemy, terrain, troops, and time available in a combat environment. Generally, weapons remain on "safe" until ready to fire.

c. Administrative Procedures. Administrative procedures include weapons clearing, grounding/stacking of weapons, and aircraft and vehicle movement.

(1) *Administrative weapons clearing.* Administrative weapons' clearing is performed following the completion of the tactical phase of all live fires and range qualifications, or upon reentry of a secure area in combat. Magazines or belts are removed from all weapons. The chain of command inspects all chambers visually; using red filtered light if at night, and verifies that each weapon and magazine is clear of ammunition. Weapons should also be rodded. Magazines are not reinserted into weapons. During training, ammunition must be turned in and accounted for with brass and ammunition checks completed.

(2) *Grounding/stacking of weapons.* If stacked, procedures outlined in FM 3-21.5, *Drill and Ceremonies* are used. If grounded with equipment, all weapons are placed on "safe" and arranged off the ground with the open chamber visible, if applicable. Biped-mounted weapons are grounded on bipeds with all muzzles facing downrange and away from nearby soldiers.

(3) *Vehicle movement.* Weapons should always be cleared and on "safe" when conducting movement in vehicles IAW SOP. Weapon muzzles must be pointing upward when traveling in vehicles. Weapons are locked and loaded only after exiting the vehicle, or upon command of the leader.

NOTE: Particular care must be given to correct handling of the pistol, especially the M9 with its double action (fire from the hammer down) feature. The removal of the M9 pistol from the holster can accidentally move the safety lever to "fire" permitting immediate double action mode of fire. Pistols should not have a round chambered unless a specific threat warrants it.

5. Safety Checklists. Safety checklists should be used before conducting CALFEXs. The safety checklist for soldiers should be the same that would be used in combat and should be adapted to METT-TC.

6. Example Safety Briefing. Before any exercise, all soldiers should receive a safety briefing. This briefing is based on the type of munitions to be used and on METT-TC. Annex I Appendix A provides general guidelines for constructing a troop safety briefing.

7. Incident Report Format. In the event there is an accident, a malfunction, or incident on the CALFEX range, accurate information concerning the accident or incident must be relayed to the local range control in a timely manner. The unit should supply the information contained in the installation range regulations. If the installation range regulations do not address reports of accidents, malfunctions, or incidents on the range, the following information should be relayed to range radio control as soon as possible:

- Unit designation.
- Range and location.
- Type weapon involved.
- Type of ammunition involved.
- Brief summary of what happened.
- Personnel injuries, if any, and extent.
- Full name, rank, social security number, and unit of injured personnel.
- Extent of property damage.
- Intentions regarding further investigation.

8. Medical Evacuation Format. If a casualty on the range requires evacuation, the standard 9 line MEDEVAC request should be used. The following procedures for directing aircraft are recommended:

- Vehicle lights used for identification during night evacuation should be directed into the wind to allow the aircraft to approach over the top of the vehicle.

- Smoke, when used, should be discharged as soon as the aircraft is within sight. Smoke should be on the downwind portion of the clearing to allow the aircraft to approach and land clear of the smoke.

- Panels, when used, should be securely fastened to the ground about 5 to 10 meters upwind of the landing area. This must be done to prevent drawing the panels into the rotor blades.

- The pick-up site and approach route must be clear of small arms and artillery fire.

9. Duds, Misfires, And Erratic Firing.

a. Duds. Upon completion of firing outside of a permanent dud area, a thorough search should be made of the impact area. Duds should be marked and reported to range control for disposal. Marking should be IAW installation range regulations. A recommended way of marking duds is by stringing or laying durable material, engineer tape, or any distinctive expedient. Objects should not be driven into the ground and the dud should not be jolted in any manner. In addition to marking, a guide should be furnished to assist EOD personnel in locating the dud(s). A report should be submitted to range control IAW installation range regulations. The report will normally contain the following information:

- Coordinates of the dud's location.
- Location by terrain features.
- Number of duds.
- Type and caliber of dud.
- Method used to mark dud.
- Names of individuals available to assist EOD personnel in locating the dud.
- Name, rank, unit, and telephone number of the individual making the report.

(1) Upon completion of dud disposal by EOD personnel in nonpermanent dud areas, the range OIC will normally be responsible for submitting a written report to range control that a surface search has been conducted and all known duds have been reported or destroyed.

(2) When firing is conducted in a permanent dud area, a record should be kept indicating the number and caliber of duds observed or suspected. Upon completion of firing, this information should be submitted to range control.

b. Misfires. Misfire procedures for specific rounds are prescribed in the appropriate weapon or ammunition technical manuals and field manuals. These publications should be reviewed before conducting the CALFEX. When in doubt, the local ammunition supply point (ASP) or EOD unit should be contacted.

(1) If a small arms weapon misfires, it should be placed on "safe" and not fired again until it has been inspected and cleared.

(2) Before turn-in to the ASP, misfires should be repacked into the original container, tagged or otherwise identified, and kept separate from other ammunition items. For mortar ammunition, safety pins should be emplaced in fuses before turn-in. If the pin cannot be replaced, range control is contacted before transporting the round.

c. Erratic Firing. Any projectile that lands outside of the firing limits should be immediately reported to range control by radio. The report should include the approximate coordinates of impact, ammunition, caliber, estimated back azimuth, and time the round was observed. Personnel on the range should cease-fire immediately and follow instructions from range control.

ANNEX D

TRAINING REQUIREMENTS

1. Purpose. The purpose of this annex is to outline training requirement for units conducting CALFEX.

2. Prerequisite Training Requirements. The following training must be accomplished prior to executing a CALFEX.

a. Unit leaders will be certified IAW DA PAM 385-63, *Range Safety.* The leaders will know the range operation, handling, and safety for all weapons system to be utilized during the live fire exercise.

b. Units will develop training programs to ensure each platoon is well trained on the individual and collective tasks required to successfully accomplishing the live fire scenario.

c. Units will ensure all individuals are qualified on the weapon system they will fire during the CALFEX.

d. Units will conduct live fire familiarization of all weapons systems used during the CALFEX within the last 30 days.

e. Units will conduct squad dismounted maneuver training within the last 30 days.

f. Units will conduct battle drill training within the last 30 days for reaction to enemy contact in a near, far, blocked, and unblocked ambush.

g. Units will conduct a full rehearsal of all prescribed tasks IAW the range scenario, MTPs and unit SOPs with blank ammunition and/or MILES within the last five days.

h. This rehearsal must include reaction to enemy contact in a near, far, blocked and unblocked ambush.

i. No unit will conduct live fire training on the CALFEX range without the battalion commander's certification.

3. Additional Training.

a. Perform a Safety and Risk Management Assessment and integrate results into the exercise.

b. Practice medical evacuation procedures to include MEDEVAC request.

c. Practice vehicle mount/dismount drills

d. Practice disabled vehicle drills.

e. Practice breaching techniques.

f. Practice calls for fire procedures.

g. Review misfire procedures for all weapon systems.

(1) Immediate action

(2) Remedial action

(3) Misfire

(4) Hang fire

(5) Cook-off

(6) Run-away gun

4. Recommended Training Prior to Execution.

a. Review anti-fratricide procedures.

b. Review procedures for use of pyrotechnics and dealing with unexploded ordnance.

ANNEX E

CONSOLIDATED TASK LIST

1. Purpose. The purpose of this annex is to provide a consolidated list of tasks that support the CALFEX.

2. Use the unit CATS and MTP to define the required collective tasks. The General Dennis Reimer Digital Library provides an excellent database for FMs, MTPs, STPs, TCs, and other training related products. The web site address for the library is: http://www.adtdl.army.mil/atdls.htm.

3. All CALFEX will include a scenario for leader/soldier development on the following tasks: React to Contact (near and far), React to Ambush (blocked and unblocked), and unit TSOPs for Mount/Dismount procedures.

4. Commanders will develop CALFEX plans based on the unit's METL, organic weapon and equipment, collective, and individual tasks. The following consolidated task list is not intended to be all-inclusive or exclusive for executing a CALFEX.

Collective Tasks	**Task Number**
Treat Casualties	08-2-0003.63-0001
Transport Personnel and Cargo	55-2-0011
Plan Unit Move	63-2-4001
Prepare Unit Move	63-2-4002
Conduct Tactical Road March	63-2-4003
Defend Convoy Element	63-2-4006
Maintain Communications	63-2-4017
Perform Operational Decontamination	63-2-4019
Cross a Chemically Contaminated Area	63-2-4226
Transport Casualties	63-2-4316
Perform Risk Management Procedures	63-2-4326
Respond to a Chemical Attack	63-2-4334
Perform Unit Level Maintenance	63-2-4552

Soldier s Manual of Common Tasks	**Task Number**
Ensure Unit Combat Lifesaver Requirements are Met	081-831-1055
Issue a Fragmentary Order	071-326-5502
Issue a Warning Order	071-326-5503
Issue an Oral Operation Order	071-326-5506
Conduct a Route Reconnaissance Mission	071-326-5805
Prepare a Operation Overlay	071-332-5000
Prepare a Situational Map	071-332-5021
Identify Intelligence and Electronic Warfare (IEW) Assets	301-371-1150
Use a Map Overlay	071-329-1019
Plan Convoy Security Operations	191-379-4407
Plan Use of Night Vision Devices	071-710-0006
Integrate Risk Management into Mission Plans	850-001-4001

Soldier s Manual of Common Tasks	Task Number
Integrate Threat Capabilities into Mission Planning	159-200-2020
Supervise Preventive Maintenance Checks and Services	091-CLT-4029
Conduct a Tactical Road March	071-326-3013
Perform Duties as Convoy Commander	551-721-4326
Lead a Serial/March Unit	551-88M-0001
Operate Vehicle in a Convoy	551-88M-0005
Perform Voice Communication	113-571-1022
Navigate from One Point on the Ground While Mounted	071-329-1030
Employ Accident Prevention Measures and Risk Management Process	850-001-2000
Control Mission Safety Hazard	850-001-3001
Use Visual Signaling Techniques	071-326-0608
Communicate Via a Tactical Radio in a Secure Net	113-637-2001
React to Indirect Fire While Mounted	071-326-3002
Practice Noise, Light, and Litter Discipline	071-331-0815
React to Direct Fire While Mounted	071-410-0002
React to Flares	071-326-0511
Move Under Direct Fire	071-326-0502
Move Over, Through, or Around Obstacles	071-326-0503
React to Indirect Fire While Dismounted	071-326-0510
Locate Mines by Probing	052-192-1135
Engage Targets with an M16A1 or M16A2 Rifle	071-315-2308
Engage Targets with a M240 Machine Gun	071-025-0007
Engage Targets with an M249 Machine Gun	071-010-0006
Engage Targets with an M203 Grenade Launcher	071-311-2130
Engage Targets with an M60 Machine Gun	071-312-3031
Engage Targets with an MK-19 Machine Gun	071-030-0004
Engage Targets with a Caliber .50 M2 Machine Gun	071-022-0001
React to Chemical/Biological Hazard or Attack	031-503-1019
Using Your Assigned Protective Mask	031-503-1035
Submit an NBC 1 Report	031-503-3005
Report Intelligence Information	301-371-1000
Evaluate a Casualty	081-831-1000
Reorganize a Unit	071-430-0029
Request Medical Evacuation	081-831-0101
Report Casualty	805C-PAD-2060

ANNEX F

CERTIFICATION/VALIDATION

1. Purpose. The purpose of this annex is to outline the CALFEX certification/validation process for CSS units conducting CALFEX.

2. Objective. We must train as we will fight and we must do so safely. Commanders will oversee live fire training. Properly conducted CALFEXs are essential to the tough training of our mission demands. The objective of the CALFEX Certification Program is to ensure that leaders are prepared to properly plan and conduct these challenging exercises.

3. Major Subordinate Commands (MSC) and separate battalion commanders in the unit command channel will establish formal, rigorous convoy LFX certification programs within their organizations.

4. On an annual basis and when new personnel assume duties, commanders will certify their leaders two levels down in the planning and conduct of live fire exercises. Units will not be able to conduct live fire training unless this has been done. This standard is in addition to the certification requirements found in AR 385-63, *Range Training*. Commanders must document all personnel they certify.

5. The installation commander will establish certification programs.

Sample Certification Program. A certification program can consist of written and practical exercises. As a minimum, such programs should incorporate four phases. Units must tailor this training based on mission, organization and the type of live fire exercises to be conducted.

a. Phase I – Individual study/written exam will be conducted to verify unit leaders' knowledge on safe range operations and weapons handling.

(1) Commanders will develop exams similar in length, scope and format.
(2) The Command's G3 will approve unit developed tests.
(3) The intent of the exam is to ensure individuals have a good understanding of Range Control regulations and policies, weapon handling procedures, and the execution of live fires consistent with the unit's METL.
(4) Successful completion of this phase is a 90% score on the written examination.

b. Phase II – Company CDRs/1SGs plan the live fire scenario and conduct hands on training to verify leader/soldier skills necessary to execute CALFEX. The BN S3/CDR participates in this phase as a coach, mentor, and teacher.

(1) Units will develop training programs to ensure each platoon is well trained on the individual and collective tasks required to successfully accomplishing the live fire scenario.
(2) Units will ensure all individuals are qualified on the weapon system they will fire during the CALFEX.
(3) Units will conduct live fire familiarization of all weapons systems used during the CALFEX within the last 30 days.

(4) Units will conduct squad dismounted maneuver training within the last 30 days.
(5) Units will conduct battle drill training within the last 30 days for reaction to enemy contact in near, far, blocked, and unblocked ambush scenarios.
(6) Units will conduct a full rehearsal of all prescribed tasks IAW the range scenario, MTPs and unit TSOPs with blank ammunition and/or MILES within, the last five days.
(7) The rehearsal must include reaction to enemy contact in a near, far, blocked and unblocked ambush.

c. Phase III – The Commander certifies and validates the unit's plan and ability to execute safe, realistic live fire exercises. Standards are the successful execution of the range briefing, terrain walk, and platoon certification.

d. Phase IV – Battalion commanders certify and validate the company commanders plan and platoon's readiness to conduct safe, realistic live fire exercises IAW MTPs, SOPs, and range regulations (see appendix 2 to Annex D). Standards are the successful execution of the range briefing, terrain walk, and platoon certification. Separate unit commanders that conduct live fires will coordinate with their respective MSC S3/CDR for certification of their leaders.

e. Phase III and IV certifications can be conducted simultaneously in order to save time if required.

6. Observer Controllers (OC) will be certified in accordance with the installation range Observer Controller Program.

7. CALFEX Validation Procedures:

a. It is important to note the distinction between leader certification and range validation. Leader certification is the four-phase process in which leaders are certified to conduct LFX ranges. Range validation is specific to a given LFX range. The commander's validation approves the concept of that particular range.

b. Battalion commanders will validate all live fire exercises at platoon and lower level prior to execution of the event. Validations will not be delegated to those of lower rank or command level.

c. Company commanders and the Range OIC will brief the battalion and group commanders. All LFX validations, regardless of unit, will be conducted using the enclosed format. Omit those portions of the briefing format when they do not apply to the specific range being validated.

ANNEX G

PLANNING MILESTONES

1. Purpose. The purpose of this annex is to outline planning milestones for units conducting CALFEX.

2. Planning Milestones. Table Annex G-1 highlights key tasks which should be accomplished prior and during the execution of the CALFEX.

Table Annex G-1 Key Tasks

Execution Day	Responsibility	Action
E Day (-) 180	BN S3	Establish initial concept.
E Day (-) 150	BN S3	Submit request for training through RFMSS XXI to Range Control.
E Day (-) 120	BN S3	Forecast ammunition requirement.
E Day (-) 90	BN S3, CO CDR, XO, 1SG, other key leaders	Conduct range reconnaissance. Draft scenario briefed to the BN CDR for approval. Task subordinate units.
E Day (-) 60	BN S3, CO CDR	Submit scenario to Range Control. Submit target request scenario for range. Issue OPORD. Unit backbriefs. Coordination meeting. OC certification. Platoon certification and train up started.
E Day (-) 35	CO XO	Submit MILES request for full up rehearsal to Training Support Branch. Verify support requirements. Verify ammunition requirements.
E Day (-) 30	CO CDR	No earlier than 3 weeks prior confirm range request with range control. Conduct live fire familiarization of all weapons. Conduct squad dismounted training. Conduct Battle Drill training. Conduct Rock Drill/TEWT. Conduct Terrain Walk. Conduct right-seat ride with another unit. Conduct OC coordination meeting.
E Day (-) 15	CO CDR	Verify PLT/OC validation. Submit Risk Assessment for approval.
E Day (-) 10	CO CDR	Brief the Live Fire Mission Brief to BN CDR.

Table Annex G-1 Key Tasks (continued)

Execution Day	Responsibility	Action
E Day (-) 07	CO CDR	Conduct final coordination meeting.
E Day (-) 05-00		Conduct full rehearsal IAW range scenario, MTPs, SOPs, with blank ammunition and/or miles.
E Day (-) 02-00	CO CDR	Receive CALFEX certification from BN CDR. Verify CALFEX plan. Proof and rehearse the enemy target arrays
E Day 00	CO CDR/XO/1SG	Movement and range set up.
E Day (+) 01-XX	CO CDR/XO/1SG	Live Fire Execution.
COM Day (+) 00-XX	CO CDR/XO/1SG	Range closure and tear down.
COM Day (+) 07	CO CDR/XO/1SG	OC evaluation packet completed and submitted to unit. Unit CALFEX AAR.

ANNEX H

LIVE FIRE EXERCISE CHECKLIST

References: Local command regulations, and Installation Range Regulation

1. Range Request.

- Terrain features and facilities required.
- List all weapon systems, ammunition, pyrotechnic or smoke, and chemicals to be used.

2. Detailed Plan of Maneuver and Fire Support.

- Line of departure/contact, start fire lines, and cease-fire lines/limit of advance for maneuver force.
- Phase lines and coordination lines to include identification for maneuver force.
- No fire lines and fire coordination lines or other means to ensure minimum safe distance requirements are complied with.
- Plan for controlling, shifting, and lifting supporting fires.
- Location for all maneuver elements and direction of attack.
- Location of all supporting weapons and principal direction of fire/flight.

3. Safety Plan.

- Unit control plan.
- Communications.
- Control to be employed to ensure that supporting fires have been shifted at the proper time.
- Signal to be used to cease all operations in case of emergency.
- Actions to be taken in the event of poor visibility/inclement weather.
- In night operations:
  - What type illumination will be used?
  - What action will be taken if illumination fails to function or is terminated.
- Proper handling of weapons and ammunition.
- Medical Evacuation Plan.

ANNEX I

TROOP SAFETY BRIEFING

1. Introduction.

a. Safety will be of the utmost importance during all firing periods. The handling of all ammunition and weapons will be strictly controlled by the chain of command.

b. Controllers have been assigned to prevent unsafe positioning of personnel or unsafe aiming and firing of weapons. Controller will be wearing colored bands on their helmets.

c. All personnel are considered safety officers and may call "Cease Fire" at any time an unsafe act is observed. All personnel will halt in position and clear their weapons if "Cease Fire" is called. Nobody will be penalized for calling a "Cease Fire" for reasons of safety.

d. The visual signal for "Cease Fire" is red smoke or red star cluster.

2. Weapon Procedures.

a. Place ammunition in your weapon only when directed to do so by your chain of command. Do not lock and load until specifically directed.

b. Keep your weapon on safe at all times when not firing at targets. Make sure the muzzle of your weapon is pointed down range at all times.

c. Begin firing only when ordered to do so by your Squad Leader/Fire Team Leader.

d. If you experience a misfire, take immediate action. If the misfire procedures fail, you will continue to move with your element, keeping your weapon pointed up and down range. You will not remain behind the assault element because of a misfiring or malfunctioning weapon. Keep moving and notify your chain of command.

(1) M16 Immediate Action: Tap base of magazine to ensure proper seating. Pull charging handle to rear. Inspect the chamber. Release the charging handle to feed a new round. Attempt to fire again.

(2) M60 Immediate Action: Wait 5 seconds. Pull retracting handle to rear. Push retracting handle forward. Press the bolt latch, release and allow the bolt to go forward. Re-aim and attempt to fire.

(3) Immediate action for all other weapons will be performed IAW the applicable FM.

e. Stay clear of the backblast for LAW, AT-4, and Claymore weapons. Firers will check blast areas before firing.

f. All small arms weapons will be cleared and checked with a solid one-piece rod (not cleaning rod) at the conclusion of each phase of the live fire exercise.

3. Movement Considerations.

a. Do not proceed down range unless specifically authorized by the chain of command.

b. During movement from firing position to firing position, keep your weapon safe. Avoid treacherous ground. Stay out of large holes or other positions where your buddies cannot observe you.

c. Always be alert for personnel moving to your front and flanks. Know the location of the personnel to the left and right of you during live fire assaults.

d. No fire lines (NFL) marked by engineer tape or chemical lights will not be crossed without specific permission from the chain of command. If easily identifiable terrain features are available, they can be used to mark NFL's instead of engineer tape or chemical lights.

e. Do not proceed down range unless specifically authorized by the safety officer. If the safety officer and element leader are not the same, the safety officer should inform the chain of command that it is safe to go down range. The chain of command will then move their units.

4. Aiming And Firing.

a. Everyone will be briefed on limits and fields of fire before each phase of the live fire exercise. Fire only at targets you can see within your limits.

b. Observe the maximum safe distance from friendly troops for your weapon before firing it. For small arms, the maximum safe distance is 50 meters. For weapons with backblasts, firers must check minimum safe distance to flanks and rear, as well as front.

c. Do not aim at moving bushes, (fellow soldiers camouflaged) animals, wires, trees and hard surfaces that might cause ricochets, or any target of which you are unsure.

d. When assaulting, fire only straight ahead while observing left, right and down range for other personnel. Avoid cross firing at targets.

5. Individual Safety.

a. Commander determines the use of earplugs.

b. Body armor and Kevlar helmets with chinstraps secured will be worn while firing.

c. Pyrotechnics should be carried where they can be easily removed in case they activate prematurely.

ANNEX J

OBSERVER/CONTROLLER CERTIFICATION PROGRAM

1. Purpose. The purpose of this annex is to establish the concept and methodology for certifying observer/controllers (O/Cs). The objective of the program is to provide the best possible O/Cs for training events by first ensuring that our soldiers possess the critical core competencies instilled at the Combined Arms Training Centers.

2. Scope. The requirements of this program apply to all O/Cs assigned to the unit.

3. Concept. The installation command will provide the Program Of Instruction (POI) for the O/C Course. Units will utilize this POI to train and validate all O/Cs prior to training. The local installation command, Training Section is available to assist in the training if requested. Group and separate commanders will determine how many O/C trainers they require as O/C instructors. Once trained, they will train additional personnel within the units using the local installation command POI. Group and Battalion commanders will provide O/Cs with the opportunities to continuously improve their skills. True proficiency in the O/C mission can only be developed through repetition and feedback.

4. Methodology. Local installation commands and Group/Separate Battalion Commanders are responsible for certifying all observer/controllers within their command on the core competencies. The trademark of all qualified O/Cs is the ability to facilitate an After Action Review (AAR); as such this is the cornerstone of our program. Units will select and train O/C instructors using the course POI to become qualified O/C trainers. Using the train-the-trainer concept, these trainers return to the unit ready to instruct the rest of the unit leaders in O/C skills. The initial training takes the form of classroom instruction and culminates with the completion of an AAR practical exercise (PE) by the student O/C. O/C training is designed to be short in duration. O/Cs develop proficiency through the execution of their skills rather than classroom experience. After completion of initial certification, Group/Separate Battalion Commanders will continue to develop their O/Cs through a sustainment program. As a minimum, the sustainment program will consist of an annual evaluated AAR for the O/C to maintain his/her certification. The three phases of O/C certification are:

a. O/C Trainer selection. This phase begins with identifying the appropriate personnel to become certified O/Cs. Commanders will select candidates who have a good understanding of doctrine and training management prior to certification training. If possible, experience at a CTC is preferred. This phase ends when the units submit their request for training to the S3/G3 or when the unit has selected the personnel they will train at their level.

b. Initial O/C certification. This phase consists of classroom instruction and a practical exercise of the following subjects:

(1) Roles of an Observer/Controller
(2) Lane Training
(3) Opposing Forces (OPFOR)
(4) Exercise Rules of Engagement (EXROE)
(5) After Action Review

This phase ends with the student passing a written exam with a minimum score of 80% and the successful completion of the AAR PE.

c. O/C Sustainment Training. This phase begins immediately following the O/Cs passing the written test and the successful completion of the AAR PE. Training in this phase should include, but is not limited to, branch/MOS specific subjects & gunnery techniques, CSS operations, the military decision making process, NCO and Officer professional development, skill cross training, and continuous improvement of AAR skills. Commanders are encouraged to use video and other O/Cs to provide continuous feedback to their O/Cs. This feedback combined with repetition of the process will deepen the O/Cs understanding of his/her role, develop his/her interpersonal skills, broaden his/her technical & tactical proficiency, and improve his/her facilitation skills. The ultimate goal for all involved is to develop CTC quality O/Cs. This phase ends when we provide a proficient O/C back to the total Army.

ANNEX K

CONVOY ACTIONS MATRIX

Table 1A - Actions

<table>
<tr><th colspan="4">Ambush Roadway Blocked – Daytime Rural</th></tr>
<tr><th>A-Preparatory Actions</th><th colspan="2">B- Reactive Actions</th><th>C-Recovery Actions</th></tr>
<tr><td>Request Support- Air, armor, security</td><td colspan="2">Alert/Report Situation</td><td>Consolidate and reorganize convoy</td></tr>
<tr><td>Request intelligence update</td><td>B1- If Stopped</td><td>B2 - If alternate route taken</td><td>Employ specialized teams (if equipped)</td></tr>
<tr><td>Change speed/interval</td><td>Move into herringbone</td><td>Bypass obstacle</td><td>• Obstacle Breaching team</td></tr>
<tr><td>Divert to another route if possible or as directed.</td><td>Move out of kill zone if possible</td><td>Increase situation awareness</td><td>• Demolition team</td></tr>
<tr><td>Reorganize, protect assets, deploy crew-served weapons</td><td rowspan="4">Recon obstacle/report
• Using binoculars
• Mounted
• Dismounted</td><td>Reorganize convoy if needed</td><td>• Medical treatment team (Combat lifesavers)</td></tr>
<tr><td>Map/Route recon</td><td>Increase defensive posture</td><td>Report situation/request assistance</td></tr>
<tr><td>Increase situational awareness involving non-driving personnel to include visual observations for
• Air threats
• Civilian interference
• Potential obstacles/booby traps/mines</td><td>Maintain communications</td><td>Perform unmasking procedures</td></tr>
<tr><td rowspan="9">Increase MOPP posture</td><td>Adjust convoy speed/interval</td><td>Reduce MOPP if authorized</td></tr>
<tr><td>Dismount into defensive posture</td><td rowspan="8">Proceed with caution</td><td>Recover/treat wounded</td></tr>
<tr><td>Coordinate and mass fires</td><td>Once out of kill zone – deploy defenses to allow remaining assets to escape/continue enemy suppression.</td></tr>
<tr><td>Deploy obstacle team</td><td rowspan="6">Continue mission</td></tr>
<tr><td>Deploy security team</td></tr>
<tr><td>Clear obstacle if possible</td></tr>
<tr><td>Reassess situation/report</td></tr>
<tr><td>Recover and treat wounded</td></tr>
<tr><td>Gain fire superiority and/or continue mission</td></tr>
</table>

Table 1B - Actions

<table>
<tr><th colspan="4">Ambush Roadway Blocked – Daytime Urban</th></tr>
<tr><th>A - Preparatory Actions</th><th colspan="2">B - Reactive Actions</th><th>C - Recovery Actions</th></tr>
<tr><td>Request Support- Air, armor, security</td><td colspan="2">Alert/Report Situation – Decision to avoid
Request support/IRF or QRF</td><td>Consolidate and reorganize convoy</td></tr>
<tr><td>Request intelligence update</td><td>If Stopped</td><td>If alternate route taken</td><td>Employ specialized teams (if equipped)</td></tr>
<tr><td>Change speed/interval</td><td>Move into Herringbone if possible. Modify formation for best advantage.</td><td>Bypass obstacle</td><td rowspan="3">• Obstacle breaching team
• Demolition team
• Medical treatment team
(Combat lifesavers)</td></tr>
<tr><td>Divert to another route if possible or as directed</td><td>Scan structures/obstacles</td><td>Increase situation awareness</td></tr>
<tr><td rowspan="5">Reorganize
• “Button up”
• Deploy crew-served weapons
• Reduce vehicle interval
• Increase vertical watch</td><td>Move out of kill zone if possible</td><td>Reorganize convoy if needed</td></tr>
<tr><td>Dismount into def posture</td><td>Increase defensive posture</td><td>Report situation/request assistance</td></tr>
<tr><td>Coordinate and mass fires</td><td>Maintain communications</td><td>Perform unmasking procedures</td></tr>
<tr><td>Deploy obstacle team</td><td>Adjust convoy speed/interval</td><td>Reduce MOPP if authorized</td></tr>
<tr><td>Deploy security team</td><td rowspan="5">Proceed with caution</td><td>Once out of kill zone – deploy defenses to allow remaining assets to escape/continue enemy suppression.</td></tr>
<tr><td>Map/Route recon</td><td>Clear obstacle if possible</td><td>Move to decontamination site if needed</td></tr>
<tr><td>Increase situational awareness involving non-driving personnel to include visual observations for
• Air threats
• Civilian interference
• Potential obstacles/booby traps/mines</td><td>Reassess situation/report</td><td>Perform deliberate decon if necessary</td></tr>
<tr><td rowspan="3">Increase MOPP posture</td><td>Check for contaminates</td><td rowspan="3">Continue mission</td></tr>
<tr><td>Recover and treat wounded</td></tr>
<tr><td>Gain fire superiority and/or continue mission</td></tr>
</table>

Table 1C - Actions

<table>
<tr><th colspan="4">Ambush Roadway Blocked – Nighttime Rural</th></tr>
<tr><th>A - Preparatory Actions</th><th colspan="2">B - Reactive Actions</th><th>C - Recovery Actions</th></tr>
<tr><td>Request Support- Air, armor, security</td><td colspan="2">Alert/Report Situation – Decision to avoid
Request support/IRF or QRF</td><td>Consolidate and reorganize convoy</td></tr>
<tr><td rowspan="2">Request intelligence update</td><td>If Stopped</td><td>If alternate route taken</td><td rowspan="4">Employ specialized teams (if equipped)
• Obstacle Breaching team
• Demolition team
• Medical treatment team
(Combat lifesavers)</td></tr>
<tr><td rowspan="2">Change speed/interval</td><td rowspan="2">Move into herringbone if possible. Modify formation for best advantage.</td><td rowspan="2">Bypass obstacle</td></tr>
<tr><td rowspan="2">Divert to another route if possible or as directed</td><td rowspan="2">Scan structures/obstacles</td><td rowspan="2">Increase situation awareness</td></tr>
<tr><td rowspan="5">Reorganize
• “Button up”
• Deploy crew-served weapons
• Reduce vehicle interval
• Increase vertical watch</td><td rowspan="2">Move out of kill zone if possible</td><td rowspan="2">Reorganize convoy if needed</td></tr>
<tr><td>Dismount into def posture</td><td>Increase defensive posture</td><td>Report situation/request assistance</td></tr>
<tr><td>Coordinate and mass fires</td><td>Maintain communications</td><td>Perform unmasking procedures</td></tr>
<tr><td>Deploy obstacle team</td><td>Adjust convoy speed/interval</td><td>Reduce MOPP if authorized</td></tr>
<tr><td>Deploy security team</td><td rowspan="5">Proceed with caution</td><td>Once out of kill zone – deploy defenses to allow remaining assets to escape/continue enemy suppression.</td></tr>
<tr><td>Map/Route recon</td><td>Clear obstacle if possible</td><td>Move to decontamination site if needed</td></tr>
<tr><td>Increase situational awareness involving non-driving personnel to include visual observations for
• Air threats
• Civilian interference
• Potential obstacles/booby traps/mines</td><td>Reassess situation/report</td><td>Perform deliberate decon if necessary</td></tr>
<tr><td rowspan="3">Increase MOPP posture</td><td>Check for contaminates</td><td rowspan="3">Continue mission</td></tr>
<tr><td>Recover and treat wounded</td></tr>
<tr><td>Gain fire superiority and/or continue mission</td></tr>
</table>

Table 1D - Actions

<table>
<tr><th colspan="4">Ambush Roadway Blocked – Nighttime Urban</th></tr>
<tr><th>A - Preparatory Actions</th><th colspan="2">B - Reactive Actions</th><th>C - Recovery Actions</th></tr>
<tr><td>Request Support- Air, armor, security</td><td colspan="2">Alert/Report Situation – Decision to avoid
Request support/IRF or QRF</td><td>Consolidate and reorganize convoy</td></tr>
<tr><td>Request intelligence update</td><td>If Stopped</td><td>If alternate route taken</td><td rowspan="4">Employ specialized teams (if equipped)
• Obstacle Breaching team
• Demolition team
• Medical treatment team
(Combat lifesavers)</td></tr>
<tr><td>Change speed/interval</td><td>Move into herringbone if possible. Modify formation for best advantage.</td><td>Bypass obstacle</td></tr>
<tr><td>Divert to another route if possible or as directed</td><td>Scan structures/obstacles</td><td>Increase situation awareness</td></tr>
<tr><td rowspan="6">Reorganize
• “Button up”
• Deploy crew-served weapons
• Reduce vehicle interval
• Increase vertical watch</td><td>Move out of kill zone if possible</td><td>Reorganize convoy if needed</td></tr>
<tr><td>Dismount into def posture</td><td>Increase defensive posture</td><td>Report situation/request assistance</td></tr>
<tr><td>Coordinate and mass fires</td><td>Maintain communications</td><td>Perform unmasking procedures</td></tr>
<tr><td>Deploy obstacle team</td><td>Adjust convoy speed/interval</td><td>Reduce MOPP if authorized</td></tr>
<tr><td>Deploy security team</td><td rowspan="6">Proceed with caution</td><td>Once out of kill zone – deploy defenses to allow remaining assets to escape/continue enemy suppression.</td></tr>
<tr><td>Map/Route recon</td><td>Clear obstacle if possible</td><td>Move to decontamination site if needed</td></tr>
<tr><td>Increase situational awareness involving non-driving personnel to include visual observations for
• Air threats
• Civilian interference
• Potential obstacles/booby traps/mines</td><td>Reassess situation/report</td><td>Perform deliberate decon if necessary</td></tr>
<tr><td rowspan="4">Increase MOPP posture</td><td>Check for contaminates</td><td rowspan="3">Continue mission</td></tr>
<tr><td>Recover and treat wounded</td></tr>
<tr><td>Gain fire superiority and/or continue mission</td></tr>
<tr><td></td></tr>
</table>

Table 2A - Actions

<table>
<tr><th colspan="4">Ambush Roadway Not Blocked – Daytime Rural</th></tr>
<tr><th>A - Preparatory Actions</th><th colspan="2">B - Reactive Actions</th><th>C - Recovery Actions</th></tr>
<tr><td>Request Support- Air, armor, security</td><td colspan="2">Alert/Report Situation – Decision to avoid
Request support/IRF or QRF</td><td>Report Situation</td></tr>
<tr><td>Request intelligence update</td><td>If route <u>does not become</u> blocked</td><td>If route <u>becomes blocked</u></td><td>Move to Rally point</td></tr>
<tr><td>Change speed/interval</td><td>Report</td><td rowspan="8">See Table 1A, Column B2</td><td>- Consolidate and reorganization of convoy</td></tr>
<tr><td>Divert to another route if possible or as directed</td><td>Increase situation awareness</td><td>- Employ specialized teams
• Demolition team
• Obstacle team
• Medical support team
(Combat Lifesavers)</td></tr>
<tr><td rowspan="4">Reorganize
• “Button up”
• Deploy crew-served weapons
• Reduce vehicle interval
• Increase vertical watch</td><td>Reorganize convoy if needed</td></tr>
<tr><td>Increase defensive posture</td></tr>
<tr><td>Maintain communications</td></tr>
<tr><td>Adjust convoy speed/interval</td><td>Perform unmasking procedures</td></tr>
<tr><td>Bypass disabled vehicles/ move vehicle out of kill zone</td><td>Reduce MOPP posture</td></tr>
<tr><td>Map/Route recon</td><td>Once out of kill zone, direct defensive assets to suppress enemy element to allow rear of convoy to escape.</td><td>Perform deliberate decon of personnel and equipment</td></tr>
<tr><td>Increase situational awareness involving non-driving personnel to include visual observations for
• Air threats
• Civilian interference
• Potential obstacles/booby traps/mines</td><td>Proceed with caution to rally point.</td><td>Reassess and recover casualties from kill zone</td></tr>
<tr><td>Increase MOPP posture</td><td></td><td></td><td>Report (SITREP)</td></tr>
</table>

Table 2B - Actions

<table>
<tr><th colspan="4">Ambush Roadway Not Blocked – Daytime Urban</th></tr>
<tr><th>A - Preparatory Actions</th><th colspan="2">B - Reactive Actions</th><th>C - Recovery Actions</th></tr>
<tr><td>Request Support- Air, armor, security</td><td colspan="2">Alert/Report Situation – Request support</td><td>Consolidate and reorganize convoy</td></tr>
<tr><td rowspan="2">Request intelligence update</td><td>If route does not become blocked</td><td>If route becomes blocked</td><td rowspan="4">Employ specialized teams (if equipped)
• Obstacle Breaching team
• Demolition team
• Medical treatment team
(Combat lifesavers)</td></tr>
<tr><td>Change speed/interval</td><td>Increase situational awareness</td><td>Increase situation awareness</td></tr>
<tr><td>Divert to another route if possible or as directed</td><td>Redirect defensive assets to suppress enemy</td><td>Increase defensive posture</td></tr>
<tr><td rowspan="6">Reorganize
• “Button up”
• Deploy crew-served weapons
• Reduce vehicle interval
• Increase vertical watch</td><td>Scan structures/obstacles</td><td>Move or Bypass obstacle</td></tr>
<tr><td>Move out of kill zone if possible</td><td>Redirect defensive assets to suppress enemy</td><td>Report situation/request assistance</td></tr>
<tr><td>Coordinate and mass fires</td><td>Maintain communications</td><td>Perform unmasking procedures</td></tr>
<tr><td>Once out of kill zone, direct defensive assets to suppress enemy element to allow rear of convoy to escape.</td><td rowspan="5">See table 1A, column B1</td><td>Reduce MOPP if authorized</td></tr>
<tr><td rowspan="4">Move to rally point</td><td>Once out of kill zone – deploy defenses (vehicles w/crew-served weapons) to allow remaining assets to escape/continue enemy suppression.</td></tr>
<tr><td>Map/Route recon</td><td>Move to decontamination site if needed</td></tr>
<tr><td>Increase situational awareness involving non-driving personnel to include visual observations for
• Air threats
• Civilian interference
• Potential obstacles/booby traps/mines</td><td>Perform deliberate decon if necessary</td></tr>
<tr><td>Increase MOPP posture</td><td>Continue mission</td></tr>
</table>

Table 2C- Actions

<table>
<tr><th colspan="4">Ambush Roadway Not Blocked – Night Time Rural</th></tr>
<tr><th>A - Preparatory Actions</th><th colspan="2">B - Reactive Actions</th><th>C - Recovery Actions</th></tr>
<tr><td>Request Support- Air, armor, security if available</td><td colspan="2">Alert/Report Situation – Request support,</td><td>Consolidate and reorganize convoy</td></tr>
<tr><td rowspan="2">Request intelligence update</td><td>If route does not become blocked</td><td>If route becomes blocked</td><td rowspan="3">Employ specialized teams (if equipped)
• Obstacle Breaching team
• Demolition team
• Medical treatment team
(Combat lifesavers)</td></tr>
<tr><td>Change speed/interval</td><td>Increase situational awareness</td><td>Increase situation awareness</td></tr>
<tr><td>Divert to another route if possible or as directed</td><td>Redirect defensive assets to suppress enemy</td><td>Increase defensive posture</td></tr>
<tr><td rowspan="4">Reorganize by -
• “Button up,” make necessary adjustment to physical posture
• Deploy crew-served weapons and increase defensive posture for all individual weapons
• Reduce vehicle interval</td><td>Scan structures/obstacles</td><td>Move or Bypass obstacle</td><td></td></tr>
<tr><td>Move out of kill zone if possible</td><td>Redirect defensive assets to suppress enemy</td><td>Report situation/request assistance</td></tr>
<tr><td>Coordinate and mass fires</td><td>Maintain communications</td><td>Perform unmasking procedures</td></tr>
<tr><td>Once out of kill zone, direct defensive assets to suppress enemy element to allow rear of convoy to escape.</td><td rowspan="9">See table 1A, column B1</td><td>Reduce MOPP if authorized</td></tr>
<tr><td>Increase situational awareness involving non-driving personnel to include visual observations for
Air threats
Civilian interference
Potential obstacles/booby traps/mines</td><td>Move to rally point</td><td>Once out of kill zone – deploy defenses to allow remaining assets to escape/continue enemy suppression.</td></tr>
<tr><td>Map/Route recon</td><td rowspan="5"></td><td>Move to decontamination site if needed</td></tr>
<tr><td>Increased Situation Awareness</td><td>Perform deliberate decon if necessary</td></tr>
<tr><td>Increase MOPP posture</td><td rowspan="3">Continue mission</td></tr>
<tr><td>Night vision device transition</td></tr>
<tr><td>- NVGs, - DVE</td></tr>
</table>

Table 2D - Actions

<table>
<tr><th colspan="4">Ambush Roadway Not Blocked – Night Time Urban</th></tr>
<tr><th>A - Preparatory Actions</th><th colspan="2">B - Reactive Actions</th><th>C - Recovery Actions</th></tr>
<tr><td>Request Support- Air, armor, security</td><td colspan="2">Alert/Report Situation – Decision to avoid
Request support/IRF or QRF</td><td>Consolidate and reorganize convoy</td></tr>
<tr><td>Request intelligence update</td><td>If Stopped</td><td>If alternate route taken</td><td rowspan="4">Employ specialized teams (if equipped)
• Obstacle Breaching team
• Demolition team
• Medical treatment team
(Combat lifesavers)</td></tr>
<tr><td>Change speed/interval</td><td>Move into herringbone if possible. Modify formation for best advantage.</td><td>Bypass obstacle</td></tr>
<tr><td>Divert to another route if possible or as directed</td><td>Scan structures/obstacles</td><td>Increase situation awareness</td></tr>
<tr><td>Reorganize</td><td>Move out of kill zone if possible</td><td>Reorganize convoy if needed</td></tr>
<tr><td>• “Button up”</td><td>Dismount into def posture</td><td>Increase defensive posture</td><td>Report situation/request assistance</td></tr>
<tr><td>• Deploy crew-served weapons</td><td>Coordinate and mass fires</td><td>Maintain communications</td><td>Perform unmasking procedures</td></tr>
<tr><td>• Reduce vehicle interval</td><td>Deploy obstacle team</td><td>Adjust convoy speed/interval</td><td>Reduce MOPP if authorized</td></tr>
<tr><td>• Increase vertical watch</td><td>Deploy security team</td><td rowspan="11">Proceed with caution</td><td>Once out of kill zone – deploy defenses to allow remaining assets to escape/continue enemy suppression.</td></tr>
<tr><td>Map/Route recon</td><td>Clear obstacle if possible</td><td>Move to decontamination site if needed</td></tr>
<tr><td>Increased Situation Awareness</td><td>Reassess situation/report</td><td>Perform deliberate decon if necessary</td></tr>
<tr><td>Increase MOPP posture</td><td>Check for contaminates</td><td rowspan="10">Continue mission</td></tr>
<tr><td>Night vision device transition
- NVGs
- DVE</td><td>Recover and treat wounded</td></tr>
<tr><td>Operate vehicles with blackout drive lights</td><td rowspan="4">Gain fire superiority and/or continue mission</td></tr>
<tr><td></td></tr>
<tr><td></td></tr>
<tr><td></td></tr>
</table>

ANNEX L

CONVOY PRE-COMBAT INSPECTION CHECKLIST
(SAMPLE)

	Individual		Ruck Sack		Vehicle		Leader		Vehicle Commander
*	Weapon	*	Sleeping Bag		Completed 5988-E (B-PMCS)	*	Knowledge of mission		Convoy checklist
*	LBE/2 Canteens/Cover	*	Extra Uniform		Current vehicle dispatch		Convoy Cdr Checklist		Map(s)/overlays/Strip maps
*	Kevlar Helmet	*	2-T-Shirts		Fuel tank(s) topped off		Overlays/Strip Maps		Radio w/fill, commo checks
*	Seasonal uniform	*	2- PR Underwear		Additional package products		Map(s)		POL Tracking Sheets
*	1st Aid Packet	*	2 PR Socks		VS-17 Panel		Convoy Clearance		AMMO tracking sheets
*	2 Ammo pouches	*	Polypro Top/Bottom		Extra Fuel Cans (Full)		Platoon Status/Listing		PLGR
*	Flashlight w/Batt	*	Cold Weather Boots		Class I basic Load (MRE/Water)		Ammo hand receipts		Current Frequencies/SOI
*	ID Tags (Taped)	*	Personal Hygiene Kit		Radio Checked and entered net		POL status sheets		PMCS done and recorded
*	Military ID Card	*	Gore-Tex Top/Bottom		Snow chains w/tiedown		Other tracking sheets	**Vehicle Load**	
*	Civilian Drivers License	*	Wet Weather Gear		Tow Bar (If applicable)		SOI		Cargo Distributed Correctly
*	MOPP Gear	*	Cold Weather Gloves		Cargo Secured	*	Route information		Tiedown straps tight
*	Protective Mask	*	Polypro glove insert		Flashlights	*	Current Threat status		Cargo loaded to ease offloading
*	Combat Lifesaver Kit (Designated Individual)	*	MREs 3 each		Map/Overlays/Strip Map		Completed Commo chks		Tanker at max authorized load
*	Mission Brief Map				Warning Triangles		PLGR (GPS)/Compass		Complete inventory of cargo known by driver
	OVM Keys				Fire Extinguisher (s)		Operational FBCB2		Load lashed/tarp tight

*	A/B Bags (see ruck sack)	**Communications**			Load Plan		Additional Ammunition		Fuel or Ammo Tracking sheets
*	Weapons Cleaning Kit		Handheld Radios		Spare tire checked and secure		Operational MTS		
*	Night Vision Goggles		Batteries		OVM/rags/tools		Binoculars		
*	Ammo (Basic Load)		SOIs		Safety Goggles		Movement Order		
*	Body Armor				DD Forms 626 and 836		Sensitive Items list		
Crew-Served Weapon					MTS Operational/Net entered		Combat Lifesaver Kit		

	Crew-Served Weapon		Ruck Sack		Vehicle		Leader		Vehicle Commander
	Weapon Checked and functional/mounted				Operational DVE		Risk Assessment		
	Handling glove				Spillage Cleanup Materials		Support element radio freqs and call signs		
	Spare barrel /Tripod				Grounding/Bonding Materials		Friendly unit locations		
	Cleaning Kit								
	Ammo (basic load)								
	T&E Mechanism								
	Acc case/strap								
	Ring mount functional								
	Serial/March Unit Commander		**Serial March Unit Commander continued**						
	Vehicle status		Operational MTS						
	Personnel status		Binoculars						
	Frequencies/SOI		Movement Order						
*	Convoy chain of command		Sensitive Items list						
*	Maps/Overlays/Strip Maps		Combat Lifesaver Kit						
*	Knowledge of Mission		Completed Commo chks						
*	Guidance on enemy contact		PLGR (GPS)/Compass						
*	Status of loads								
*	Route information								
*	Threat update								
*	Weapons status and placement in S/MU								

*	Status of Security Force								
*	Knowledge of rally points								
*	Knowledge of SP, CP(s), RP, UMCP, Halts, and so on								
*	Primary and Alternate Routes								

* = Items that are applicable to each soldier prior to movement. Empty cells are for additional items.

ANNEX M

CONVOY COMMANDER'S CHECKLIST

Convoy commander's responsibilities.

- Plan primary and alternate routes, conduct map recon with key leaders, disseminate routes, rally points and order of march to TCs.
- Place crew-served weapons throughout convoy. Give sector of fires to weapon systems. PCI weapons and soldier for proper loads.
- Conduct FM radio checks with units along your routes. Plan for fire support along route and brief to soldiers. Ensure commo in the convoy is working.
- Ensure units along the routes are notified when approaching positions and when cleared of their area of operations.
- Appoint NCOIC of convoy and do safety/risk analysis to mitigate hazards as necessary.
- Task organize as possible the convoy into assault, support, breaching, clearing and any special teams that are available within the convoy
- Coordinate with friendly units along convoy route to prevent fratricide.

Convoy NCOIC.

- Pre-plan CASEVAC procedures, MEDEVAC LZs along route and brief to all soldiers.
- Ensure each vehicle disseminates information passed out by the convoy commander and conducts rehearsals as time allows.
- Conduct internal radio checks, MTS/FBCB2 system checks for convoy and with higher prior to departure

Convoy Commander's Briefing (Five-paragraph OPORD format)

Situation		
Enemy forces:	Location:	
	Minefield location:	
	Strength:	
	Activity:	
	Probable COA:	
	Terrain:	
	Weather:	Danger Areas:
Support units:	Type of unit:	Location:
	Assets available for support:	
Friendly forces:	Location:	
	Friendly unit mission:	
Mission	Type of Cargo:	

Convoy Commander's Briefing (Five-paragraph OPORD format) continued

	Origin:											
	Destination:											
Execution:	Organization of convoy											
	Bumper #s:											
	Timeline:											
	SP:	CP1	CP2	CP3	CP4	CP5	CP6	RP				
	Time to reach halts:				Time at halts:							
	Primary route:											
	Alternate route:											
	Road condition:				Distance:			# of Intersections:				
	Convoy speed:	Catch-up speed:	Interval at open:		Interval at closed:							
	Light status:				MOPP Level							
	Actions of contact:											
	Emergency actions:	Accidents:										
		Breakdowns:										
		Separation:										
		Medical support:										
		Ambush blocked:						Actions of Security forces:				
		Ambush Not blocked:						Actions of Security forces:				
		Serial Commander's responsibilities:										
Service Support	Personnel:											
	MEDEVAC:											
	Refueling:							Servicing:				
Command and Signal	Chain of Command (2-levels down):											
	Loc of commander:							Loc of NCOIC:				
	Radio Freqs and Call signs:											
	Hand and Arm Signals:											
	Challenge:	Password:										
	Near and Far recognition:											

ANNEX N

SAMPLE CONVOY BRIEFING

TASK ORGANIZATION
Convoy element
Advanced Guard
Convoy Security
Rear Guard

1. Situation.

a Enemy
(1) Weather and effects
(2) Known natural and manmade obstacles

b Friendly
(1) Higher HQ
(2) Elements supporting the convoy

2. Mission.

3. Execution.

a. Recon, SP, RP, Checkpoints, Halts

b. Location of all support and combat units.

c. Alternate route

d. Air corridors for air evacuation and ATK air

e. Convoy execution
(1) Advanced guard
(2) Main body
(3) Rear guard

f. Actions of contact
(1) Halts
(2) Mines/obstacles
(3) Ambush with and without obstacle
(4) Indirect artillery/RPGs
(5) Sniper fire
(6) Vehicle Breakdown
(7) Vehicle separation
(8) Casualty evacuation
(9) Accidents
(10) Human involvement

g. Tasks to subordinate units:
h. Coordinating instructions: ROE in effect, PIR and IR

4. Service Support.

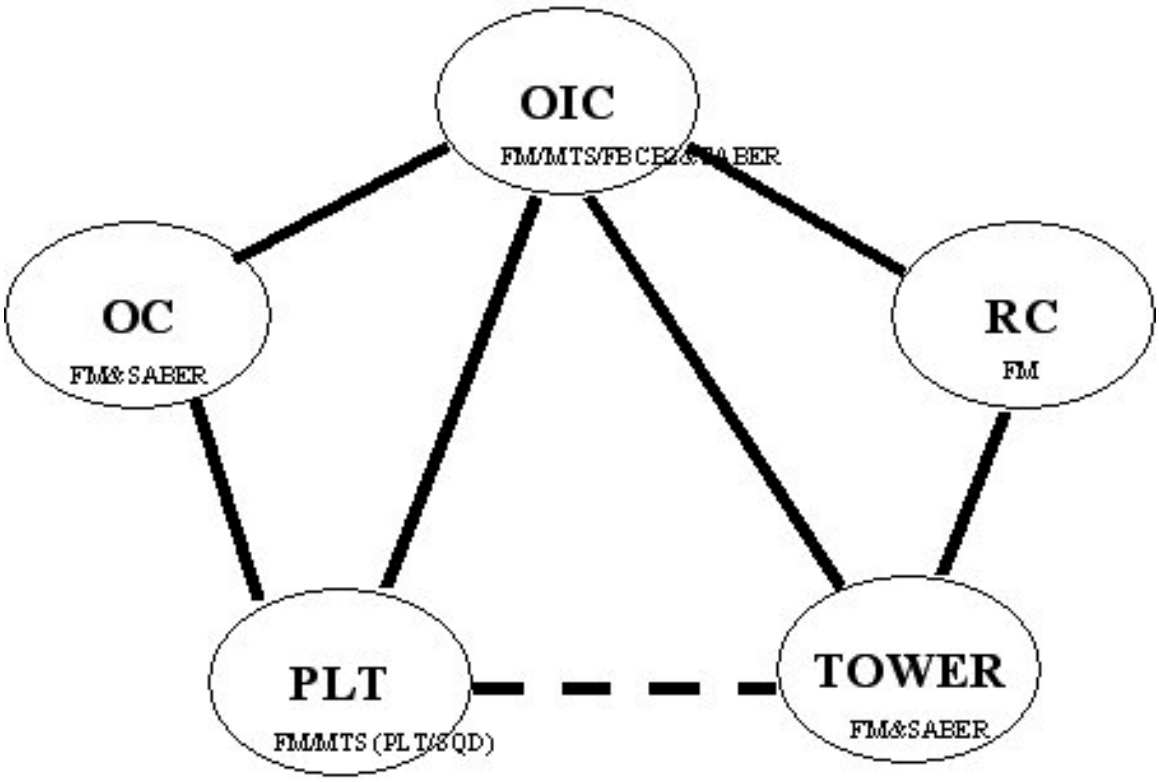
a. Classes of supply (I, III, IV, I, VIII)
b. Casualty evacuation

5. Command and Signal.

a. Location of convoy chain of command
b. Assumption of command
c. SOI information
d. Code words
e. Emergency signals (radio or visual)

ANNEX O

Range Communications Network



ANNEX P

RISK MANAGEMENT WORKSHEET

RISK MANAGEMENT WORKSHEET Page __ of __

1. MSN/TASK:	2. DTG BEGIN: END:	3. DATE:
4. PREPARED BY: _____ RANK/LAST NAME/DUTY POSITION		

5. HAZARDS	6.	7. CONTROLS	8.	11. HOW TO IMPLEMENT	12. HOW TO SUPERVISE	13. CONTROL EFFECTIVE

9. OVERALL RISK LEVEL AFTER CONTROLS ARE IMPLEMENTED (CHECK ONE)	10. RISK DECISION AUTHORITY:
____ **LOW** ____ **MEDIUM** ____ **HIGH** ____ **EXTREMELY HIGH**	_____ RANK/LAST NAME/DUTY POSITION

ANNEX Q

CLOSURE REPORT

General. This report is to be submitted to Higher Headquarters TOC NLT ___ Hours after closure into deployment area or home station.

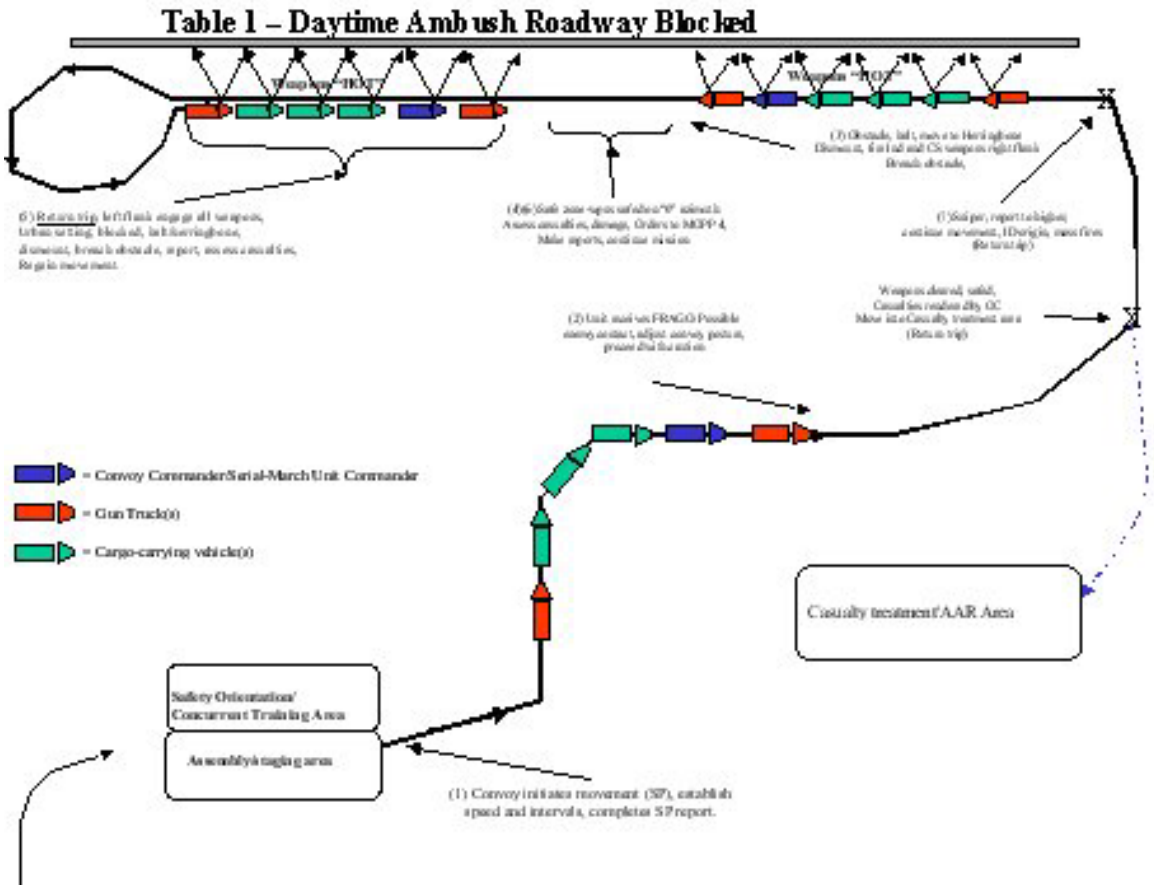
Line 1 – Location:
Line 2 – DTG Arrival:
Line 3 – Weapons/Sensitive Items report:
Line 4 – DTG all elements closed:
Line 5 – Remarks on Movement/Training:

Note: Include name and unit if faxed or delivered by LNO.

ANNEX R

SAMPLE RANGE LAYOUT

General. This layout may be used to conduct live fire operations on an existing range.



APPENDIX B

PERIMETER DEFENSE LIVE FIRE EXERCISES

B-1. Purpose. This training aid is designed to give the leader a template to use when planning, coordinating and executing a perimeter defense live fire exercise (PDLFX) to train their soldiers in proper perimeter defense techniques.

B-2. Methodology. Successful defense of CSS units, protection of our soldiers, supplies and materiel, depend on well-trained leaders who are completely confident and competent in the employment of the array of weapon systems, equipment and soldiers under their control. To this end, the PDLFX provides the culminating event to a well planned, resourced, and executed training program.

a. Commanders will develop a training strategy to train and certify unit leaders/soldiers. Units will incorporate the standards outlined in the unit's doctrine (STP, FM, MTP and SOPs) and the Installation Range Regulation.

b. A critical element in the unit training strategy is the identification of critical training gates. These gates are defined as training events that must be conducted to standard before proceeding to a more difficult or resource-intensive training event or task. Training events should follow the crawl, walk, and run training methodology.

c. The PDLFX will provide the commander an opportunity to assess/evaluate the following:

(1) Command and control (fire commands, fire discipline, fire control measures, indirect fire support, and base of fire).
(2) Weapons systems integration; target identification, acquisition, and engagement (suppression and fire distribution).
(3) Concentration on the use of maneuver, fires, and terrain simultaneously.
(4) Individual movement techniques
(5) Small unit tactics

d. Risk Assessment and Risk Reduction will be prepared for each step of the operation.

e. Every phase of the operation should be briefed to and approved by the Battalion Commander. Battalion Commanders will certify subordinate units are certified to conduct PDLFX prior to the live fire event.

B-3. Concept of Operation. The PDLFX is designed to provide realistic training for company/platoon level command/control of defensive positions and the integration of direct and indirect fire weapons. This concept of the PDLFX is provided as a guide for unit leaders to plan, prepare, and execute a PDLFX. Commanders will assess their units and develop a PDLFX to enhance their unit's capability to execute METL required tasks.

B3-1. The live fire range should allow units realistic training for establishing a defensive perimeter and an opportunity to employ direct fires and indirect fires in support of defense of the unit sector. The live fire range should allow the unit to execute dismounted live fire battle drills. The inherent dangers of the live fire range make it vitally important that all possible safety measures be carefully followed.

B3-2. Task, Condition, and Standard.

a. Task. The live fire exercise will provide units with realistic training and an opportunity to employ direct and limited indirect fires in a tactical environment. The objective is to replicate a perimeter defense as close to reality as possible while remaining within the confines of safety considerations. The range should accommodate a mix of supporting weapon systems. The units should be able to execute the PDLFX in one day.

b. Conditions. Platoon size elements. The battalion level commander determines the precise conditions for each PDLFX and communicates this via the operations order. Threat is a number of squad/platoon-sized forces capable of conducting attacks along the unit's perimeter positions using small arms, crew served weapons, indirect fire and potential chemical weapons. The battalion level commander determines the threat scenario for each PDLFX and publishes this in the enemy situation/Intel annex of the OPORD.

c. Standard. Safely and successfully execute battle drills IAW MTP, unit METL, TSOP, and Range SOPs and complete the mission contained in the battalion OPORD.

B-4. Unit Assessment. Leaders must conduct an honest assessment of their unit prior to preparing for the PDLFX. The standard for the assessment should include the MTP for the unit, weapons qualification records, and CTT results. Based on the assessment, the leader determines the areas where the unit needs training prior to the PDLFX.

B-5. Unit Prerequisites. Unit prerequisites should include at a minimum:

B-5-1. Individual Weapons Qualifications. All soldiers should have qualified with their assigned weapon within the last six months and should use that weapon during the PDLFX. Inherent in qualification, the soldier should be able to assemble, disassemble, and place the weapon into operation, as well as perform load, clear and immediate action procedures.

B-5-2. Crew served Weapons Qualifications. Personnel assigned to the Crew-served weapons in the unit should have qualified within the last six months prior to the PDLFX. If an alternate crew is to use the weapon during any portion of the PDLFX, they should also have qualified within the previous six months. Inherent in qualification, the crew should be able to assemble, disassemble, and place the weapon into operation, as well as perform load, clear and immediate action procedures.

B-5-3. Warfighter Individual Skills Training. Soldiers participating in the PDLFX should have completed their Common Task Training within the previous six months or at least have completed that portion of the Common Tasks that will be required as part of the PDLFX.

B-5-4. Preparation. There are many steps in preparing for the PDLFX. Leaders should follow their unit and Installation Range Control SOPs in all areas that apply. At a minimum, leaders should:

a. Gain approval of scenario, safety fan and safety plan.
b. Request support and attached personnel as required
c. Brief leaders and support personnel on the plan for the PDLFX and ensure all understand the plan and their roles completely.
d. Brief the unit on the scenario for and conduct of the PDLFX.
e. Arrange for ammunition, OCs, support personnel, rations, and so on. to meet the unit at the assembly area (AA) the day of the PDLFX.
f. Whenever possible, the PDLFX is enhanced through the use of multi-echeloned training with the units' higher headquarters.

B-6. Preparing the Defense. After arriving at the AA, the unit must accomplish a number of tasks prior to beginning the live fire portion of the exercise. These tasks are identical to the tasks that the unit would be required to conduct during preparation for an actual defense.

B-6-1. Reconnaissance. Both in training LFX and in conduct of an actual defense, reconnaissance is essential.

a. The Assembly Area. Prior to the occupation of the defensive position, the leader will halt the unit in an assembly area near the position to be occupied. The leader will establish security and prepare for the leader recon.

b. Leader Recon. The Leader Recon may not be reconnaissance by only the senior leader as the name may imply. It could be conducted with key leaders or it could, in many cases, be a senior leader (Company Commander or Platoon Leader) who would first conduct an initial recon alone then conduct it again with the key leaders. For a company sized element, recommend a recon by a platoon leader along with a squad leader and at least two riflemen to act as a clearing party. During the reconnaissance with the key leaders, the following would be identified at a minimum:

(1) Clear the area
(2) Likely avenues of approach
(3) Subordinate elements' assigned sectors of the perimeter
(4) Locations for key weapons systems
(5) Primary, alternate and secondary fighting positions
(6) Dead space
(7) CP location

B-6-2. Occupation of the Defense. The occupation of the defensive position should be conducted IAW unit SOPs. If such an SOP does not exist, one should be developed and rehearsed by the subordinate elements of the unit until is can be done with little or no direction from leaders. During the occupation of the defense the unit must:

a. Establish Security. Local security must be established prior to soldiers occupying their fighting positions. This can be accomplished by the leadership positioning crew served weapons to overwatch the unit while the occupation is in progress or by positioning sharpshooters or snipers to accomplish the same task. Once the perimeter has been successfully occupied, members of the security team can occupy their portion of the perimeter.

b. Occupy Co/PLT Fighting positions. Once security is established, the unit will occupy their fighting positions. Within the perimeter of each subordinate element local security is established prior to beginning the priorities of work.

c. Priority of Work. This is a set method of controlling the preparation and conduct of a defense. Preparation of the defense should be prescribed by TSOP. The leader changes priorities based on the situation. All leaders in the unit should all have a specific priority of work for their duty position. For details of these and other priorities, see Chapter 5, Defensive Operations of FM 7-10, *The Infantry Rifle Company*. At a minimum, the priorities of work should include:

(1) Establish and implement R&S Plan*
(2) Install Communications with higher headquarters*
(3) Position Crew-Served Weapons
(4) Prepare Range Cards
(5) Locate CP
(6) Identify FPL/PDF
(7) Prepare Sector Sketch
(8) Clear Fields of Fire
(9) Prepare Fighting Positions
(10) Emplace Obstacles
(11) Rehearse Engagements
(12) Stockpile Food, Water, Ammo
(13) Improve Fighting Positions
*Should be the leader's top priority

B-6-3. Time Management. A critical aspect of defensive planning is managing available time. The leader decides what must be accomplished during daylight to allow platoon and squad defensive preparation to continue during darkness. Because there is never enough time to prepare the defense, the leader must make the best use of time available.

B-6-4. Defensive Battle. Defensive battle starts when the planned signal/event for initiating fires occurs. In a very non-linear fight, the authority for the initial engagement may be delegated to the lowest level. This initial engagement may be a squad ambush, massed fires in an EA, or engaging the enemy at maximum effective range of each system. The subordinate leaders and soldiers then conduct the fight in accordance with the leaders' concept. The following is a discussion of a centralized company defense. Remember, this does not apply when conducting a decentralized, nonlinear defensive battle consisting of squad and platoon actions. During the LFX since there will be no enemy to approach the perimeter, the leadership may consider

initiating unit fires with a blast from a whistle or some other signal not routinely heard on the battlefield.

a. All unit weapons fire at appropriate targets as they come within range IAW the fire plan. Leaders are alert to direct and control fire where it is needed to avoid wasting ammunition.

b. The rate of fire will increase as the enemy approaches. If tanks and infantry are attacking, fire is placed to force the tanks to button up and separate foot soldiers from the tanks.

c. If attacking formations are not broken up forward of the unit's position, the enemy will assault. The unit leader then calls for his FPF. Machine guns that have a FPFL will fire on that FPFL while those that do not will fire along their PDF. All other weapons fire within their sectors IAW their sector sketch until the assault has been halted.

d. An arranged signal, such as a flare, is used to stop the firing when the assault has been halted. The FPF may be repeated, as needed. Since the FPF expends a lot of ammunition, it should only be used to stop an enemy assault from closing on the position. If the enemy gets through the FPF, it is repelled by close combat or counterattack.

e. Throughout the defense, the subordinate leaders keep the leader informed of their situation. The leader, in turn, must keep the next higher command informed of the unit's situation.

f. Once the enemy is repelled, the leader reestablishes operations and sends patrol units forward to maintain enemy contact. Indirect fire is called on areas where the enemy is apt to regroup. The company reorganizes and prepares for another enemy attack.

g. Consolidation and Reorganization. Consolidation and reorganization should begin automatically at the lowest levels. As soon as the engagement begins, the leaders in the company must be aware of the status of their units and reorganize immediately when require. However, some of the considerations in this section must wait until there is a lull in the battle. Reorganization includes but is not limited to:

h. Man Key Weapons. Assign personnel to replace key soldiers lost during the fight; for example, ensure crew-served weapons are manned and the chain of command is reestablished.

i. Reestablish Security. While conducting a PDLFX, soldiers would not be positioned forward in OP/LP, as in an actual defense. However, these are an essential part of the defense and their reestablishment would be a priority if soldiers withdrew from them during the action.

j. Treat or Evacuate Casualties. Treat casualties as far forward as practical using buddy-aid and combat lifesavers and organic medics. Those who can continue to fight are returned to their positions; evacuate the others. Report the dead and evacuate the bodies as soon as practical.

k. Redistribute Ammunition and Supplies. Distribute stockpiled supplies; take a quick inventory of other needs. Submit status reports to the higher headquarters.

l. Reposition. The enemy will have almost certainly noted the positions of your key weapons and fighting positions. If certain positions are in danger or depend upon surprise to be effective, reposition soldiers and weapons that are vulnerable or do not have good observation of fields of fire.

m. Reestablish Communications. Provide a status report to the higher HQs either via, radio, FBCB2, landline or messenger.

n. Repair fighting Positions. Check camouflage, overhead cover, and sandbags and replace as required.

o. Repair/Replace Damaged/Breached Obstacles, Mines and Booby Traps. During the PDLFX, this is an item that must be discussed but probably is not practical to conduct for safety reasons.

p. Use Snipers. If no snipers are available, use the best marksmen in the unit. They should be allowed to move anywhere in the position to find and hit targets of opportunity. They also make an excellent security element during work on the perimeter.

B-7. Unit Crawl Phase. The Crawl Phase is designed to familiarize the unit with the plan to conduct the PDLFX and to identify any deficiencies with the plan.

B-7-1. Conduct TEWT or walk-thru of site with leaders without ammunition. If possible, conduct the walk-thru on the actual live fire exercise terrain. If that is not possible, conduct the walk-thru on similar terrain and make extensive use of a sand table of the PDLFX area. Ensure that you cover all of the steps in Paragraph B-6. Preparing the Defense.

B-7-2. Conduct walk-thru of site with all soldiers without ammunition. Again, if at all possible, conduct the walk-thru on the actual site of the LFX. If this is not possible, at a very minimum conduct it on a sand table at the unit level and then at subordinate unit levels.

B-7-3. Conduct AAR. Following the Crawl Phase, conduct an AAR to ensure that all soldiers know their roles in the PDLFX and to identify problems in the plan or the scenario.

B-8. Unit Walk Phase. The Walk Phase is designed to refine unit battle drill skills and to increase the soldiers' confidence in their ability to perform the mission.

B-8-1. Conduct all aspects of paragraph B-6 using blank ammunition. It is imperative that this phase of the exercise is conducted on the PDLFX range. During the leaders' recon, actual positions need to be identified and soldiers/leaders will need to prepare their range cards and sector sketches.

B-8-2. Require Soldiers to don MOPP-4 and engage enemy. Part of the scenario for the PDLFX must include the donning of chemical protective equipment. A prearranged signal, such as green smoke or the phrase "Gas! Gas! Gas!" would be adequate. Soldiers must don their protective gear within the standard and continue to engage the enemy.

B-8-3. Conduct AAR. Following the "Walk Phase", the unit should conduct another AAR. If the unit leadership is not comfortable with the soldiers' ability and confidence, they may wish to repeat the Crawl Phase. Safety is key; if the soldiers are not ready to proceed to the next level, retraining is required. If time runs out on the unit's allocation of the range, it is better to continue to conduct the "Walk Phase" and reschedule the "Run Phase" for a different day.

B-8-4. Conduct Weapons Maintenance. It would be prudent to take the time to conduct weapons maintenance following each phase where individual or crew-served weapons are used, particularly when a unit is changing from a phase of an exercise that requires blank ammunition and moving to the next phase which requires live ammunition. Weapons should be well cleaned and oiled and all blank firing adapters should be removed**. UNDER NO CIRCUMSTANCES SHOULD THE UNIT MOVE BACK TO USING BLANK AMMUNITION FOR THE WALK PHASE IF IT HAS ALREADY USED LIVE AMMUNITION ON THE RUN PHASE.**

B-9. Unit Run Phase. Safety cannot be overemphasized during this phase. The unit should not conduct the training unless the appropriate number of OCs and Safety Personnel are present and thoroughly briefed on their roles.

B-9-1. Conduct all aspects of paragraph B-6 using live ammunition. During this phase soldiers will not load their weapons until directed to by the leadership.

B-9-2. Engage the enemy in MOPP-4. At a prearranged signal, the unit will don protective masks and continue to engage the enemy. Firing should be halted during the exercise and all weapons cleared and placed on safe before the unit leaders direct the unit into MOPP-4. Once all soldiers in are MOPP-4 the leadership may instruct them to reload and resume engaging the enemy targets.

B-9-3. Engage the enemy at night. A portion of ammunition should be reserved for night fire during the PDLFX. When conducting the night portion of the LFX, the leader should consider placing two thirds of the unit on a weapons safe status and minimizing the number of OC/Safeties to allow for concentrating OC/Safeties on the remaining one third of the unit. Recommend one OC/Safety per crew served weapon and one per individual firer. After that third of the unit has fired, place it in a weapons hold status and move to the next third of the unit.

B-9-4. Conduct AAR. Conduct the AAR immediately after the PDLFX if at all possible or if not, after returning to the unit area. Be careful to capture any and all details that will affect the revision of unit SOPs. Ensure that the soldiers understand which portions of the defense of the perimeter were omitted for safety reasons during the PDLFX, such as the posting of OP/LPs downrange of any perimeter defense.

B-9-5. Conduct Weapons Maintenance. Conduct weapons maintenance as soon as possible after conducting the PDLFX.

B-10. Perimeter Defense Scenarios. The options for the scenario used in conducting a perimeter defense LFX are nearly unlimited. They can be as complex as the unit's training status allows and the unit's mission requires. Be careful to make the training as realistic as it can safely be conducted. Below are two possible scenarios that the unit can use or can modify to fit its specific needs.

B-10-1. Defense in Strength. When using this scenario, the unit leader assumes that he may place the entire unit on the perimeter. It is unlikely that the range complex will accommodate a 360-degree defense, so this scenario assumes that the leader is exercising the unit's defense of a portion of the higher headquarters perimeter.

a. General Situation. The Brigade has seized key terrain within its area of operations. Contact with the enemy elements has been broken. Intelligence reports indicate that the enemy is retreating in small groups and will defend in 2 to 3 man elements to slow friendly forces. The enemy is believed to have the capability to counterattack in small unit strength possibly within the next 24 hours.

b. Special Situation. The unit is directed to occupy designated terrain (the PDLFX range) and establish a perimeter defense and prepare to conduct CSS operations.

c. Phase I. The unit moves to the AA designated by the commander. The unit establishes 360-degree security.

d. Phase II. The unit leader conducts the leader recon (may be conducted with or without key leaders).

e. Phase III. The unit occupies the defense IAW the unit TSOP. If the range permits, the unit will dig fighting positions during the unit Walk Phase. If the range does not permit digging of fighting positions, the unit will mark their fighting positions with aiming stakes or will occupy existing positions if provided as part of the range complex.

f. Phase IV. Unit prepares defense IAW established Priority of Work. The soldiers will not move into the impact area to clear fields of fire. Instead they will indicate to the OC/Safety the areas that they would normally clear.

g. Phase V. Once the unit leader is satisfied that the perimeter is properly established, he may begin the exercise by tasking subordinate elements to engage dismounted enemy to their front via indirect fire weapons. The subordinate element will be expected to call in a SALUTE report to higher, then request and adjust indirect fire on the enemy position. OC/Safety personnel will simulate indirect fire through the use of artillery simulators.

h. Phase VI. The unit has coordinated indirect fire on the enemy but they continue to advance. The leader directs the unit to open fire with a pre-arranged signal. The unit should assume that the enemy is still some distance away and exercise fire discipline at this point and engage with semi-automatic fire, M203s and short bursts from crew served weapons.

i. Phase VII. The enemy is advancing and the unit leader initiates Final Protective Fires through the use of a pre-arranged signal. After a reasonable period, the leader ceases fire as the enemy begins to withdraw.

j. Phase VIII. While retreating, the enemy calls in indirect chemical fire on the unit that is simulated by green or some other color smoke. The call of "Gas! Gas! Gas!" is heard throughout the perimeter. The unit dons protective clothing and continue to engage the enemy while it withdraws. During this phase, if the unit is using live ammunition, the unit will cease fire, unload and safe all weapons before donning protective clothing. Once OC/Safety personnel confirm weapons status, the commander will then order the unit into MOPP-4.

k. Phase IX. Once it has become dark, the unit leader will place a portion of the unit into a weapons hold status and proceed through the night fire portion of the exercise.

l. Phase X. Once the enemy has been driven away, the unit leader will direct a cease fire through a pre-arranged signal and will direct the unit to unload and safe all weapons and will then conduct an AAR.

B-10-2 Partial Unit Defense with a QRF. In the partial unit defense it is assumed that a significant portion of the unit is conducting CSS support missions to other units and only has a small portion to defend with. All actions are the same except when occupying the defense; only crew served weapons are actually manned. The remaining soldiers are organized into a QRF. The QRF is located near the CP so that it can be directed at any time to the perimeter as needed to repel an attack.

a. Special Situation. The QRF must rehearse their actions until they know them thoroughly. They must know where to assemble, who to direct them to the appropriate portion of the perimeter, and what to do on arrival. The QRF should not include a crew served weapon but it should include a number of M249s and M203s. These individuals should know where the M249 and M203 emplacements are located throughout the perimeter.

b. Special Situation. The unit is directed to occupy designated terrain (the PDLFX range) and establish a perimeter defense and prepare to conduct CSS operations.

c. Phase I. The unit moves to the AA designated by the commander. The unit establishes 360-degree security.

d. Phase II. The unit leader conducts the leader recon (may be conducted with or without key leaders).

e. Phase III. The unit occupies the defense IAW paragraph B-6 of this document and unit SOPs. If the range permits, the unit will dig fighting positions during the unit Walk Phase. If the range does not permit digging of fighting positions, the unit will mark their fighting positions with aiming stakes or will occupy existing positions if provided as part of the range complex.

f. Phase IV. Unit prepares defense IAW established Priority of Work. The soldiers will not move into the impact area to clear fields of fire. Instead they will indicate to the OC/Safety the areas that they would normally clear.

g. Phase V. Once unit leader is satisfied that perimeter is properly established, he will withdraw the QRF from the perimeter and position them near the CP leaving the crew served weapons and a few other riflemen. Then he may begin the exercise by tasking subordinate elements to engage dismounted enemy to their front via indirect fire weapons. The subordinate element will be expected to call initiate a salute report to higher, then request and adjust indirect fire on the enemy position. OC/Safety personnel will simulate indirect fire through the use of artillery simulators.

h. Phase VI. The unit has used indirect fire on the enemy but they continue to advance. The leader directs the unit to open fire with a pre-arranged signal. The unit should assume that the enemy is still some distance away and exercise fire discipline at this point and engage with semi-automatic fire, M203s and short bursts from crew served weapons.

i. Phase VII. The leader has an OC or one of the crew served weapons crews requests the QRF to their portion of the perimeter to prevent it from collapsing. The leader then alerts the QRF and either leads it himself to the threatened portion of the perimeter or directs it to the threatened portion, whichever the SOP states.

j. Phase VIII. The enemy is still advancing and the unit leader initiates FPF through the use of a pre-arranged signal. After a reasonable period, the leader ceases fire as the enemy begins to withdraw.

k. Phase IX. While retreating, the enemy calls in indirect chemical fire on the unit that is simulated by green or some other color smoke. The call of "Gas! Gas! Gas!" is heard throughout the perimeter. The unit dons protective clothing and continue to engage the enemy while it withdraws. During this phase, if the unit is using live ammunition, the unit will cease fire, unload and safe all weapons before donning protective clothing. Once OC/Safety personnel confirm weapons status, the commander will then order the unit into MOPP-4.

l. Phase X. Once it has become dark, the unit leader will place a portion of the unit into a weapons hold status and proceed through the night fire portion of the exercise.

m. Phase XI. Once the enemy has been driven away, the unit leader will direct a cease fire through a pre-arranged signal and will direct the unit to unload and safe all weapons and will then conduct an AAR.

B-11. Actions During the Defense. During the defense the unit and leadership will be expected to take specific actions in response to events driven by the enemy. OCs can help the leader monitor the unit's performance using a table of events and corresponding actions taken by the unit (see Table B-1). It is not all inclusive and should reflect as many events as the leader believes are necessary to adequately evaluate his unit's performance.

Table B-1. Actions During the Defense

Event	Action	Report
Enemy appears in area	Engage enemy w/direct fire	- Submit SALUTE Report - Request Indirect Fires
Enemy advances	Engage w/indirect fires	Adjust fires
Enemy continues to advance	Increase volume of fires	Request QRF
Enemy assaults perimeter	O/O fire FPF	
Enemy uses chem. Weapons	Increase MOPP Level	NBC Report
Enemy Withdraws	Continue to engage	
Enemy has departed area	Reorganize the Perimeter	Call in Situation Report

B-12. Observer Controllers. Observer Controllers are the eyes and ears of the unit commander. They provide eyes on the unit in ways that the commander cannot.

B-12-1 Role of the OC. The unit chain of command, while responsible for safety and training, cannot focus attention on these areas during a combat exercise; their concern may be maneuver, calling for fire, or evacuating casualties. OC functions may include the following, as well as any additional instructions provided within the commander's guidance.

a. Observing and Controlling Training. This does not mean lead the unit; it refers to ensuring that the unit understands the tactical scenario and executes its missions within doctrinally correct parameters. Assessing casualties and reporting unit activities are other important aspects of control. OC duties require the OC to be where the action is to ensure the feedback provided during AARs is beneficial and accurate. However, the OC's actions should not compromise the unit's plan.

b. Setting the Example. The OC should wear the same uniform, camouflage, and equipment as the unit conducting training. When possible, he should also move as the unit moves (for example, kneel, assume the prone position, and so forth).

c. Teaching and Coaching. Knowledge of the unit, enemy doctrine, and tactical scenario is expected. OCs must also understand the major points of emphasis the commander is teaching and the results the commander expects. However, OCs must not instruct or lead counterparts into doing what they (OCs) think should be done. OCs should ask leading questions to ensure counterparts understand the operational plan and achieve results through the proper implementation of doctrine. OCs must also tailor coaching to the level of the unit's training.

d. Providing Feedback and Assisting with AARs. A major responsibility of an OC is enunciated in the duty description, OBSERVE. The observations of the OC provide feedback to the unit(s) during the AAR so observations should be recorded. Although soldiers and leaders provide valuable feedback, input from an outside observer is important to a quality AAR.

e. Assessing Casualties. Assessing casualties is critical for replicating battlefield conditions. Exercise commanders will provide specific tables for kill ratios according to the varying combat multipliers available and used by friendly forces or OPFOR. The following procedures provide general guidance for most casualty assessments:

(1) The OC is alerted to contact. Usually the OC will hear shots or explosions, be alerted over the radio, or see contact develop.

(2) The OC alerts the appropriate agency that a contact is in progress.

(3) The OC uses casualty ratio tables (kill cards) to assess casualties in long-range engagements, indirect fire engagements, and other engagements as appropriate.

(4) The OC reports casualties (type and number) to appropriate agency.

(5) The OC monitors casualty treatment and evacuation procedures. This is Important to supply feedback during the AAR.

f. Controlling Targetry. When remote targets can be used in an PDLFX, one OC should be designated as the primary controller and a second should be designated as an alternate. These controllers should be with the lead elements. By setting up multiple target arrays, the OC can influence the movement of a unit to maintain a safe, tactically realistic scenario.

g. Reporting. All OCs must report unit activities to ensure higher headquarters is kept informed and current on the ground situation. In general, a report should be made whenever the situation changes. The exercise commander or his representative should provide reporting formats. The following events demand an immediate response:

(1) Any contact and casualties from contact.
(2) Any fratricide.
(3) Use of chemical agents by either force.
(4) Troop/unit movements.

B-12-2.See Table B-2 for Recommended Resourcing/Distribution of OCs:

Table B-2. Recommended Resourcing Distribution of OCs

	Day	Night
Individual Weapons	1 per squad/section	1 per firer
Crew-served Weapons	1 per weapon	1 per weapon

B-13. Higher Headquarters. Establish an element from sister unit to replicate the higher HQ to receive situation reports, NBC reports, and so on. OCs may serve as the higher HQs or any other person or persons may be designated as such.

B-14. Range Cards. Range Cards are an essential part of the Defense Plan. They are the building blocks of the unit's sector sketch. Range Cards may be required of any and all soldiers as directed by unit SOP. At a minimum, the following should completed by the following:

- Crew served weapons team
- M249 SAW gunners
- M203 gunners

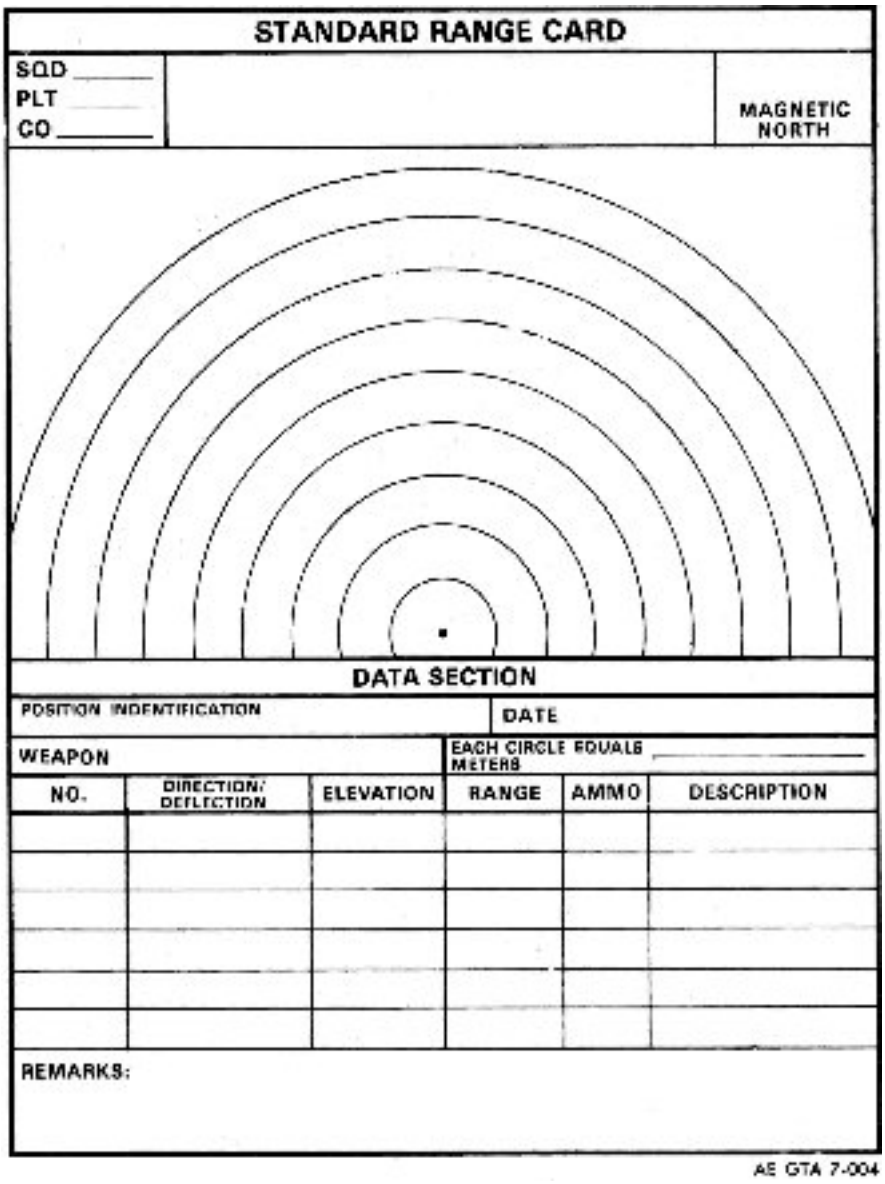


Figure B-1. Blank Range Card

Figure B-1 depicts a blank copy of a range card. Range cards may serve as depictions of only the field of fire of key weapons or they may be used to graphically show the PDFs of each weapon in the unit. Either way they are key to developing and controlling the defense. The cards are made in at least two copies. One copy remains with the weapon at all times and the other is handed to the higher headquarters to be use to develop the unit sector sketch.

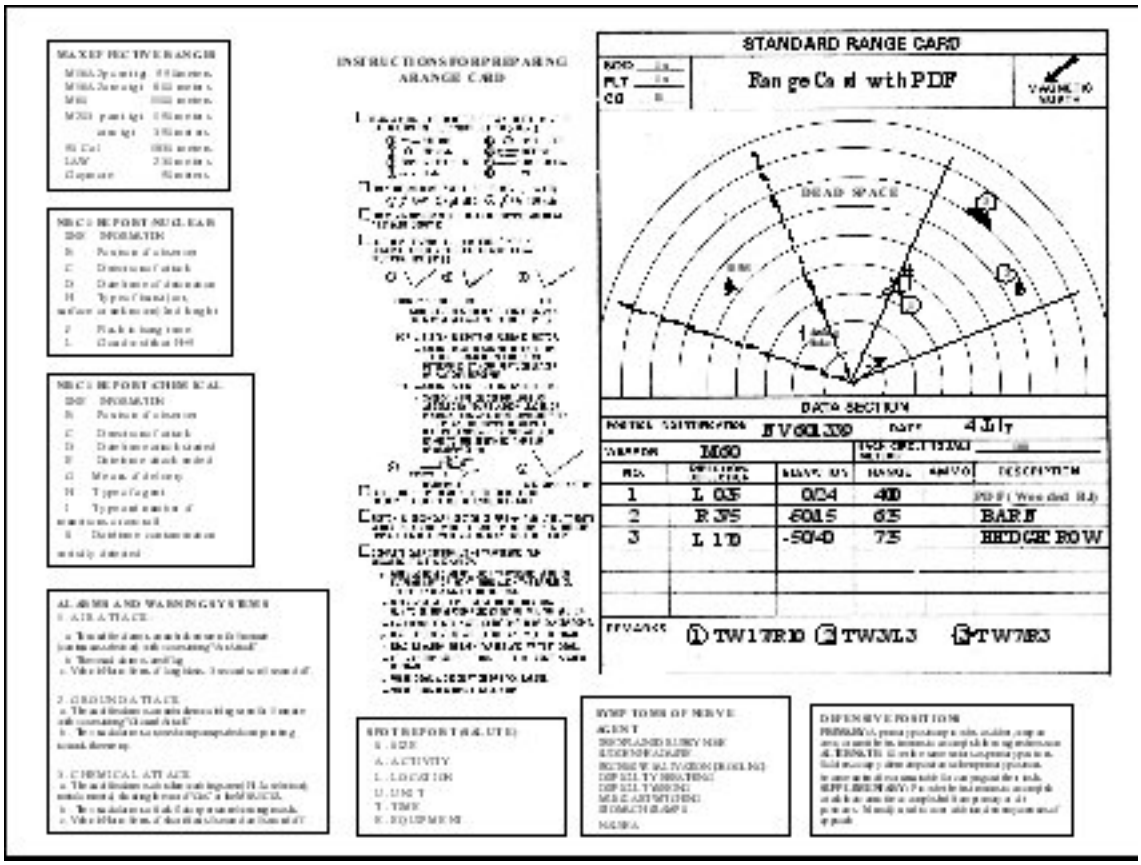


Figure B-2. Range Card Backside

B-15. Sector Sketch. The Sector Sketch is the diagram that depicts the defense of the unit in a graphic nature (see Figure B-3). There are many ways to develop the sector sketch. It can be drawn free hand on blank paper or it can be developed on graph paper to a given standard or scale. The advantage of the latter is that it allows for consistency throughout the unit and makes for much more accurate sector sketches at higher headquarters.

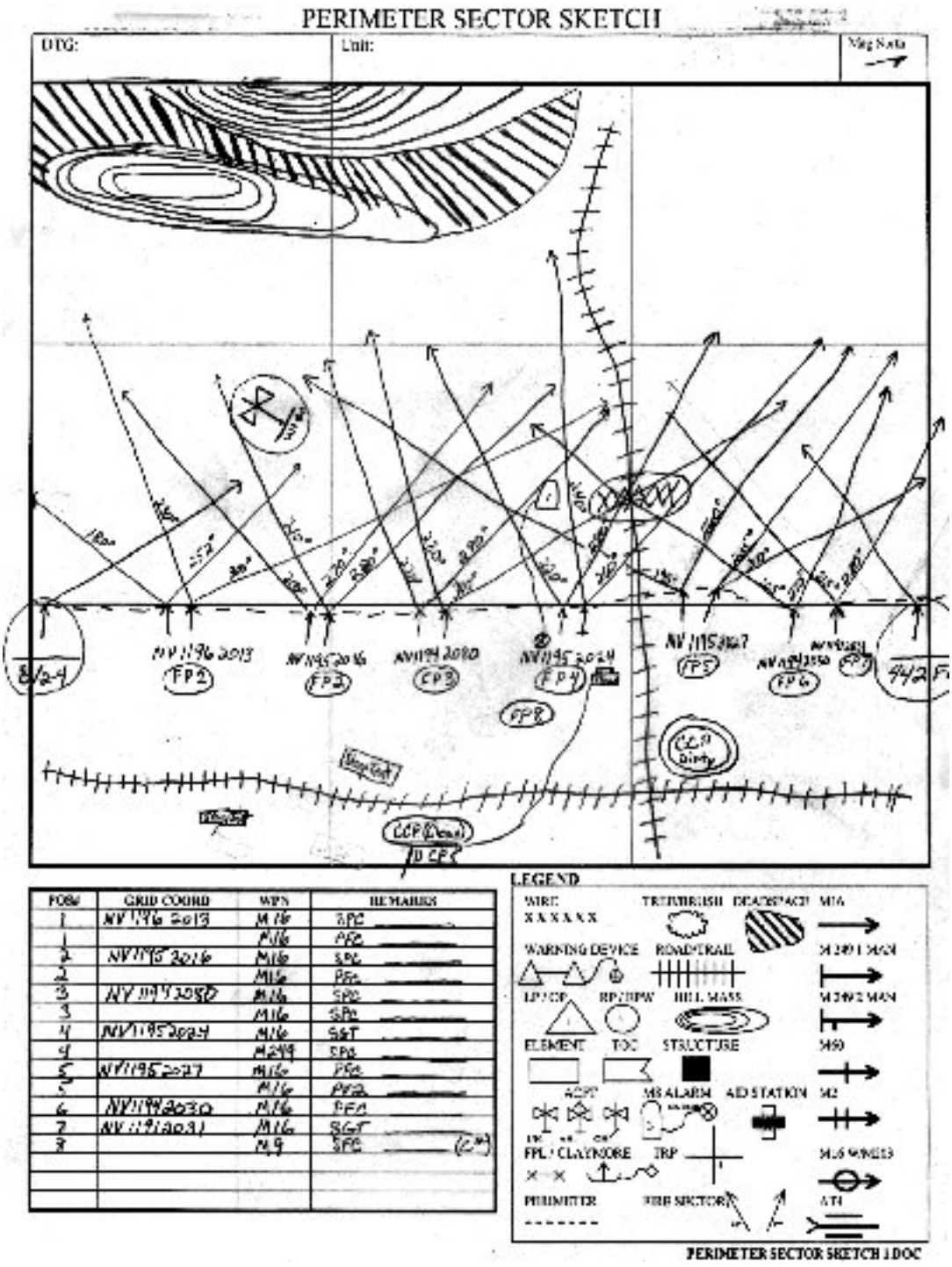


Figure B-3. Perimeter Sector Sketch

B-16. PDLFX Safety Brief. Prior to conducting the PDLFX, the leadership must conduct a thorough safety briefing and ensure that all personnel participating in the PDLFX in any capacity are clear on safety procedures. Below is an example of a typical PDLFX safety briefing.

B-16-1. Troop safety briefing. Introduction.

a. Safety will be of the utmost importance during all firing periods. The handling of all ammunition and weapons will be strictly controlled by your chain of command.

b. Controllers have been assigned to prevent unsafe positioning of personnel or unsafe aiming and firing of weapons. Controller will be wearing colored bands on their helmets.

c. All personnel are considered safety officers and may call "Cease Fire" any time an unsafe act is observed. All personnel will halt in position and clear their weapons if "Cease Fire" is called. Nobody will be penalized for calling a "Cease Fire" for reasons of safety.

d. The visual signal for "Cease Fire" is red smoke or red star cluster.

B-16-2.Weapon procedures.

a. Place ammunition in your weapon only when directed to do so by your chain of command. Do not lock and load until specifically directed.

b. Keep your weapon on safe at all times when not firing at targets. Make sure the muzzle of your weapon is pointed down range at all times.

c. Begin firing only when ordered to do so by your Squad Leader/Fire Team Leader.

d. If you experience a misfire, take immediate action. If the misfire procedures fail, you will continue to move with your element, keeping your weapon pointed up and down range. You will not remain behind the assault element because of a misfiring or malfunctioning weapon. Keep moving and notify your chain of command.

(1) M16 Immediate Action: Tap base of magazine to ensure proper seating. Pull charging handle to rear. Inspect the chamber. Release the charging handle to feed a new round. Attempt to fire again.

(2) M240/M60 Immediate Action: Wait 5 seconds. Pull retracting handle to rear. Push retracting handle forward. Press the bolt latch, release and allow the bolt to go forward. Re-aim and attempt to fire.

(3) M2 Immediate Action: Per FM.

(4) M249 Immediate Action: Per FM.

(3) Mark 19 Immediate action. Per FM

e. Stay clear of the backblast for Light Anti-tank Weapon (LAW), AT-4, and Claymore weapons. Firers will check blast areas before firing.

f. All small arms weapons will be cleared and checked with a solid one-piece rod (not cleaning rod) at the conclusion of each phase of the live fire exercise. A squad or platoon leader should be posted at each rodding station.

B-16-3.Movement considerations.

a. Do not proceed down range unless specifically authorized by the chain of command.

b. During movement from firing position to firing position, keep your weapon safe. Avoid treacherous ground. Stay out of large holes or other positions where your buddies cannot observe you.

c. Always be alert for personnel moving to your front and flanks. Know the location of the personnel to the left and right of you during live fire assaults.

d. No fire areas marked by engineer tape or chemical lights will not be crossed

B-17. Support Requirements.

B-17-1. Personnel requirements. Table B-3 lists potential personnel requirements for executing a CLFX.

Table B-3. Potential Personnel Requirements

Personnel	Number	Remarks
OIC	1	Range certified
RSO	1	Range certified
NCOIC	1	Range certified
Tower NCO	1	Range certified
Ammo NCO	1	Range certified
Ammo detail	1	HAZMAT endorsed license, Ammo handler certified
Target detail	1	As appropriate to sufficiently control live ammunition
Target operator	1	Range certified
Range support detail	TBD	As appropriate to sufficiently support range operation
MEDIC	1	MOS 91W
FLA driver	1	MOS 91W
Road guards	4	As appropriate to support range operation and unit traffic patterns.
Armorer	1	
Range Entry NCO	1	
OC/Safety	12	As appropriate to sufficiently conduct multiple platoon/iterations continuously
Mechanic	1	As appropriate to support range operation
Concurrent training NCO	1	As appropriate to support range operations

B-17-2.Equipment requirements. Table B-4 lists potential equipment requirements for executing a PDLFX.

Table B-4. Potential Equipment Requirements

Equipment	Number	Remarks
Radios	TBD	As appropriate
Tents	3	As appropriate
Camouflage screen	12	As appropriate to cover tentage
Camouflage supports	12	As appropriate to cover tentage
Armorer tool kit	1	1 per Armorer

Table B-4. Potential Equipment Requirements (continued)

Equipment	Number	Remarks
Mechanic tool kit	1	As a appropriate
Water trailer	1	As appropriate
Range support vehicles	TBD	As appropriate
Unit CLFX vehicles	TBD	As appropriate
FLA	1	As appropriate
Combat Lifesaver Bag	2	1 per Combat Life Saver

B-17-3. Table B-5 lists additional requirements.

Table B-5. Additional Requirements

Equipment	Number	Remarks
Class I	TBD	As appropriate
Class III	TBD	As appropriate
Concertina wire	TBD	As appropriate
Body armor	70	As appropriate
Field latrine	TBD	As appropriate
Hand washing station	TBD	As appropriate
Breach Kits	2	One per platoon
VS-17	4	One per platoon and one per LZ/PZ

B-17-4. Table B-6 lists miscellaneous requirements.

Table B-6. Miscellaneous Requirements

Equipment	Number	Remarks
Fire extinguisher	TBD	As appropriate
Bull horn	1	
Magazines	300	As appropriate
Oil	TBD	As appropriate
Clearing rods	10	
Ear plugs	TBD	As appropriate
Batteries	TBD	As appropriate
Table	TBD	As appropriate
Chairs	TBD	As appropriate
Map Boards	TBD	As appropriate
Easels	TBD	As appropriate
Sand table kit	2	

B-17-5. Ammunition requirements. The unit should utilize the per weapon allocation found in *DA PAM 350-38, Standards in Training Commission,* as well as local policy and command training guidance for LFX ammunition requirements (see Table B-7).

Table B-7. Ammunition Requirements*

Weapon	DODIC	Rounds	Frequency Active	Frequency Reserve	Frequency Guard
M16/M4	A059/A063	130/20	1	1	1
M203 GL	B519	4	1	1	1
M249 LT Machine Gun	A064	300	1	1	1
M249 AR	A064	300	1	1	1
M60/M240B MG	A131	300	1	1	1
M2 .50 Caliber MG	A557	100	1	1	1
MK-19 Grenade MG	B584	30	1	1	1

*Data Extracted from DA Pam 350-38 Standards in Training Commission (STRAC).

B-17-6. Certification. The Commander prior to the conducting the PDLFX must verify the following items. This memorandum signed by the Commander stating these items have been verified is due at the range in-brief for each squad (see Table B-8).

Table B-8. Commander Verification

TASK TO BE VERIFIED BY COMMANDER	Commander initials and date
Ensure all personnel participating are currently qualified on their particular weapon system.	
Ensure combat lifesaver is within the team.	
Ensure combat lifesaver certification is current.	
Ensure combat lifesaver bag is complete.	
Ensure personnel emplacing and detonating the claymore mine are proficient.	

Table B-8. Commander Verification (continued)

TASK TO BE VERIFIED BY COMMANDER	Commander initials and date
Ensure platoon, squad and team leaders are proficient on a 5-paragraph operations order.	
Ensure soldiers are knowledgeable about the effective range of their particular weapon system.	
Ensure squad and team leaders are knowledgeable on hand and arm signals.	
Ensure squad leader is proficient with troop leading procedures.	
Ensure soldiers are proficient with medevac procedures.	
Ensure soldiers are proficient in verifying range cards and sector stakes.	

ANNEX A

LEADER GUIDELINES FOR ESTABLISHING AND EXECUTING THE PERIMETER DEFENSE

1. Purpose. The purpose of this annex is to give CSS leaders a practical guide for establishing a perimeter defense. It is a very basic reference for leaders who need a quick "how to" on CSS tactical defense operations. The information contained herein was gleaned from the lessons learned at the National Training Center.

2. Weapons. Many leaders do not realize what their weapons can realistically accomplish. No one should expect one soldier with just an M-16 to stop an OPFOR squad or an explosive laden vehicle driven at high speed toward your perimeter. Table Annex A-1 lists realistic accomplishments of weapons.

Table Annex A-1. Weapon Accomplishment

Weapons	Accomplishments
M-16A2 Rifle:	Kills individual soldiers out to 550 meters. The M-16 is an individual weapon. It should not be the only weapon defending your perimeter.
M249 SAW:	Kills small groups of soldiers out to 800 meters. It is a heavier version of the M-16. It can be used on the perimeter as long as the only thing you expect is infantry.
M240/M-60 Machine Gun:	Kills groups of soldiers out to 1800 meters (tripod mounted). A good weapon for your perimeter.
M-2 Machine Gun:	Kills large groups of soldiers and lightly armored vehicles out to 1600 meters. Your best machine gun. It should be your first choice for perimeter defense. The only automatic weapon that is effective against BTRs (a Threat vehicle [Soviet]) and BRDMs (a Threat scout car [Soviet]).
Mark 19 Grenade Machine Gun	Capable of automatic or semi-automatic firing of 40MM anti- personnel and anti-armor rounds to an effective range of 1600 meters. Devastating against personnel and lightly armored vehicles. Can be ground or vehicular mounted.
M203 Grenade Launcher:	Indirect fire: Used to drop explosives in places enemy soldiers are hiding (ditches, gullies, behind concrete walls, through windows and doors, any place that you cannot reach with a bullet). For point targets (windows, doorways) no more than 150 meters. For area targets you can be up to 350 meters away.
Hand Grenade:	Useful for clearing rooms or when the enemy is very close; also useful when you want to stay hidden, especially at night. (No muzzle flash or gunshot to show where you are.)

Table Annex A-1. Weapon Accomplishment (continued)

Weapons	Accomplishments
AT-4 Rocket Launcher:	When fired in groups (volley fire) it will kill light-armored vehicles (BMPs, BTRs, M113s) out to 400 meters. Tanks are so heavily armored it is almost impossible to kill one with this weapon. If you are engaging a tank, try to shoot from above (second-story window, cliff top) into the thinner top armor, or directly from behind at its rear armor. It is also useful against bunkers and fighting positions.
Claymore Mine:	Kills small groups of soldiers, on command, out to 100 meters. Imagine a giant shotgun. An excellent perimeter defense weapon.
M-15/21 Mine:	Kills or immobilizes tanks, but only if they roll directly over it.

3. Necessary Skills. Here is a recommended list of the skills needed to establish an effective defense. If you have not tested the ability of your soldiers and leaders to perform these tasks, you have no idea of their proficiency. Platoon and squad STX during Sergeant's Time are great ways to assess these tasks and train them to standard. Soldier skills have been divided into two levels. This reduces the number of skills a soldier has to learn upon arrival in a new unit. Basic soldier skills are for soldiers who have no field experience; advanced soldier skills are for soldiers who have been to the field at least once.

a. The Private. Basic Soldier Skills.
   (1) Dig a hasty fighting position.
   (2) Lay concertina: triple strand with stakes.
   (3) Guard/Checkpoint duty.
   (4) Fire M16A2 or SAW.
   (5) Use night vision devices.

b. The Specialist. Advanced Soldier Skills.
   (1) Fire M240/M60 or M2 Machine Gun.
   (2) Dig a M240/M60 or M2 Machine Gun position.
   (3) Prepare a range card.
   (4) Fire crew-served weapons with night sight.
   (5) Fire AT-4.
   (6) Advanced concertina wire: harassment wire, tangle-foot.
   (7) Place trip flares, Claymores and field expedient warning devices.

c. The Squad Leader. Organizing the CSS squad for combat.
   (1) Squad sector sketch.
   (2) Supervise fighting position construction: enforce standards.
   (3) Performs the pre combat inspections (PCI) of the soldiers. The PCI should include the following:
      - weapons
      - ammunition
      - water

- batteries
- NBC gear
- Night vision devices
- communications equipment.

d. The Platoon Leader and Platoon Sergeant. Organize the CSS platoon for combat

(1) Assign squad sectors.

(2) Position crew-served weapons: PL says where to place and what direction is the sector of fire; PSG makes it happen.

(3) Direct the placement of the wire: PL says where; PSG makes it happen.

(4) Position AT-4s at areas likely to see enemy vehicles.

(5) Complete the platoon sector sketch: PL responsibility.

(6) PSG conducts pre combat inspection of the crew-served and anti-armor weapons. Check for: range card, M2 headspace and timing gauges, batteries, tools, cleaning kit, weapon cleanliness.

(7) Directs the emplacement of trip flares and other warning devices.

e. The Company Commander and First Sergeant. Organize the CSS Company for combat

(1) Assign platoon sectors.

(2) Company CP: radios, telephone, MSRT, maps. Position air defense assets: Stinger team, M2 on a vehicle ring mount (if available).

(3) Complete the company sector sketch.

(4) Inspect crew-served weapons and their positions.

(5) Direct company internal reaction force.

(6) Call for mortar and artillery fire.

4. The Top Fifteen Mistakes from the National Training Center. Listed below are the most common errors that have been observed by O/Cs.

a. MILES gear. We have seen soldiers fire complete belts of ammunition at OPFOR soldiers without alerting or keying a sensor. **TECHNIQUE:** Zero MILES gear.

b. Sectors of fire. It does not matter how big you draw the sector of fire on your map. The tripod of an M240/M60 only swings across a limited arc. Likewise, assigning guards huge areas to cover, forcing them to swing their heads back and forth like a radar dish, will only last ten minutes. After that they will just stare straight ahead, occasionally glancing to their left and right. **TECHNIQUE:** Use this habit to your advantage. Place guards to the sides of their sectors and have them look along the perimeter. In this manner, their entire sector becomes one narrow field of view, which makes it easy to observe and easy to fire upon.

c. Rehearsals. When the OPFOR is at the wire is not the time to figure out your response. Reaction forces need to be organized, with set rally points, sketches of the area, and radios. When you are facing a mounted OPFOR, planning is even more important. MPs and mounted internal reaction forces racing to catch OPFOR vehicles are sure to die. During the Vietnam War, the Viet Cong frequently set up secondary ambushes to trap the would-be pursuers. The OPFOR is too good. You cannot play "catch up" against them. **TECHNIQUE:** Move to ambush points and shoot the OPFOR as they come by.

d. Qualified gunners. The greatest strength of the OPFOR is their speed. You have only seconds to beat the OPFOR. If your only qualified M2 gunner is at work five minutes away from the M2 position, he will get there 4 minutes and 30 seconds too late to do any good. **TECHNIQUE:** USAREUR requires units to have two qualified gunners for every crew-served weapon. The National Training Center recommends three.

e. Wire. Units often place wire in areas where guards cannot view the wire. Units are wasting wire if they use this method. Moreover, wire never stops the OPFOR. Concertina wire only slows down the OPFOR so you can get a better sight picture as you squeeze the trigger. **TECHNIQUE:** Do not count on wire to protect you.

f. Weapons' test firing. If you do not fire the weapon, how do you know it works? A bad time to learn that the weapon has malfunctioned is when OPFOR soldiers are cutting through the wire. **TECHNIQUE:** Fire two six-round bursts. If a machine gun is going to jam at all, it will usually jam after the first burst.

g. Weapons' zero. You cannot destroy what you cannot hit. The fundamentals of marksmanship still apply. In firefights soldiers love to fire from the hip, then complain because none of the OPFOR are killed. **TECHNIQUES:** Zero your weapon. Fire from appropriate firing position.

h. Night vision devices**.** We have seen many soldiers wear NVDs around their necks; however, few soldiers use them. If those NVDs are not in front of their eyes, they are not in use. As force size diminishes, we have to use technology to our advantage. **TECHNIQUE:** We have the equipment to own the night; USE it!

i. Placement of positions. Improper soldier positioning can produce common errors. A location that seems to have wonderful fields of view is often completely different when you are in a foxhole. **TECHNIQUE:** When you are placing positions, ***get down on your stomach and look again.*** This is what the soldier will actually see.

j. Oversize fighting positions. The bigger a fighting position, the more difficult it is to emplace overhead cover. It is commonly referred to as the "Jacuzzi Syndrome" when soldiers dig huge holes. When soldiers start piling sandbags on top of the Jacuzzi-size holes, the overhead starts to sag on the first layer, let alone the third layer of sandbags. **TECHNIQUE:** A good position is a tight fit--only two helmets wide by two M-16s deep. It is really easy to emplace overhead cover.

k. Fields of fire. If everyone faces straight out, you need a lot of positions to fully cover an area. **TECHNIQUE:** One position placed to one side and oriented along your perimeter**,** can cover a lot of ground.

l. Force protection. How many CPs and TOCs have you seen with a bunker or hasty position close by? Many officers and NCOs have been seen standing up and continuing to work in the TOC as the artillery comes in or the OPFOR raid has reached the "tents with all the antennas around them." **TECHNIQUE:** Ensure there is a fortified position easily accessible to TOC and CP personnel.

m. Roving patrols versus guard posts. A patrol that moves along your perimeter does not guard your perimeter; it guards a portion of your perimeter for a short period, then it guards another portion. The remainder of the perimeter is not protected. The OPFOR does not casually stroll into your perimeter. They sit outside it for hours, day and night, watching. They will spot the weak points. The OPFOR will time patrols. **TECHNIQUE:** Post static guards.

n. Combat operations. Thousands of soldiers on support and stability operations must be re-trained before they engage in combat. Common habits include using white lights freely, parking hub to hub, and an extreme reluctance to fire on the enemy. A typical problem develops when a guard sees someone cutting through the perimeter wire. By the time the guard finishes calling the CP and requesting instructions, the OPFOR are inside the perimeter. **TECHNIQUE:** Train tactical force protection at Home Station.

5. Checklist For A Solid Company Defense.

- One hundred percent of the perimeter is covered by observation and fire from M240/M60 and M2 machineguns.
- One hundred percent of the perimeter is wired in.
- Crew-served weapons are dug in.
- All crew-served weapons have been test fired.
- AT-4s are on the perimeter, loaded and keyed.
- CP has FM communications to battalion TOC, platoons, perimeter, and the company IRF.
- CP has wire communications to battalion TOC, platoons, and the perimeter.
- CP has sketch of company perimeter, map of support area, and 1:50,000 map of immediate area.
- CP has a bunker, with communications and maps.
- IRF has (at least): one machinegun, one AT-4, communications to the CP, and map of company area.
- IRF has rehearsed.
- Company stretcher teams are organized and have rehearsed.
- Combat lifesavers have their bags with them and the bags are fully stocked.
- Company medical evacuation vehicle is ready (empty of what it normally carries).
- Everyone has a hasty position, including the CP and IRF soldiers.

6. Stand To. Every CSS units should conduct Stand To. This TTP starts just before sunrise and lasts 30 to 45 minutes. The exact standards vary, but include 100-percent manning of the perimeter and shutting down the generators. **TECHNIQUE:** Use Stand To as a daily rehearsal of the perimeter defense plan. Exercise every asset. It is possible to rehearse internal reaction forces, MPs, casualty collection, NBC testing, and mass casualty plans ***every day,*** greatly speeding the response time for all assets. Rehearsals also highlight flaws in defense plans.

EXAMPLE: In 1994 the Russians attacked Grozny, the Chechen capital, as part of their campaign to stop the breakaway republic. The Russians had massive problems with the Chechens' deliberate targeting of logistic units. The Russian logisticians were so inept at defense that, not only were Russian infantry units pulled back from the front to guard these units, but also many additional infantrymen were pulled out to fill in the unit vacancies.

RESULT: Logistic units had taken so many casualties; they were completely unable to accomplish their mission!

EXAMPLE: During Operation Iraqi Freedom, hostile forces frequently probed US positions at night by firing RPGs, mortars, and automatic weapons fire into the perimeter. Iraqi forces also repeatedly struck US convoys with improvised explosive devices, RPG, machine gun and automatic weapons fire.

RESULT: US forces have taken casualties. CSS soldiers have had to rediscover that every Soldier is a rifleman. There is no front line or rear area in Iraq.

ANNEX B

LIVE FIRE EXERCISE RANGE OPERATIONS CHECKLIST

This checklist consists of nine sections, each covering a different topic relating to range operations. The checklist should be modified to include local policy changes to the regulations or SOPs. The person responsible for the training must answer the questions in each section. Ask each question in order. Record each "Yes" answer by placing a check in the GO column. Record a "No" or "Don't know" by checking the NO-GO column. Refer to the checklist to find the GO and NO-GO columns.

When all the questions in a section are asked, look back over the NO-GOs. Contact the people who reported them and ask if they have corrected each problem. If so, change the answer to GO. If any NO-GO remains, analyze it and implement a countermeasure for the shortfall. Afterwards, check to ensure the countermeasures work. Before range operations start, be sure a workable countermeasure is implemented for each safety hazard presented by a NO-GO answer.

1. Section I. Mission Analysis.

1. Who will be firing on the range?_____

   Number of personnel_____Units_____

2. What weapons and course will be used?

   Weapons_____Course_____

3. Where will the training be conducted?

   Range_____

4. When is the range scheduled for operations?

   Date_____Opens_____Closes_____

2. Section II. Double Check (see table Annex B-1).

Table Annex B-1. Range Operation Checklist Section II)

	GO	NO-GO	REMARKS
1. Has sufficient ammunition been requested for the number of personnel?			
2. Are the range facilities adequate for the type of training to be conducted?			
3. Has enough time been scheduled to complete the training?			
4. Have conflicts that surfaced been resolved?			

3. Section III. Become an Expert (see table Annex B-2).

Table Annex B-2. Range Operation Checklist Section III)

	GO	NO-GO	REMARKS
1. Review TMs and FMs on the weapons to be fired.			
2. Talk with the armorer and other personnel experienced with the weapons to be fired.			
3. Review AR 385-63.			
4. Visit range control and read installation range instructions.			
5. Reconnoiter the range (preferably while it is in use).			
6. Check ARTEPs to see if training tasks can be integrated into the range training plan.			

4. Section IV. Determine Requirements

a. Personnel

1. OIC.
2. Safety officer.
3. Assistant safety officer.
4. NCOIC.
5. Ammunition NCO.

6. Ammunition personnel (determined by type of range).

7. Target detail and target operators.

8. Tower operator.

9. Concurrent training instructors.

10. Assistant instructors.

11. Radio telephone operator.

12. Guards (range requirements).

13. Medic(s).

14. Air guard.

15. Armorer.

16. Truck driver (range personnel and equipment).

17. Mechanic for vehicles.

18. Have you overstaffed your range?

b. Equipment

1. Range packet and clearance form.

2. Safety fan and diagram if applicable.

3. Other safety equipment (aiming circle, compass).

4. Appropriate publications pertaining to the training that will be conducted.

5. Lesson plans, status reports, and reporting folder.

6. Range flag and light (night firing).

7. Radios.

8. Field telephone and wire.

9. Radio Antenna, if necessary.

10. PA set with backup bullhorn(s).

11. Concurrent training markers.

12. Training aids for concurrent training stations.
13. Sandbags.
14. Tentage (briefing tent, warm-up tent).
15. Space heaters, if needed.
16. Colored helmets for control personnel.
17. Safety paddles and vehicle flag sets or lights.
18. Ambulance or designated vehicle.
19. Earplugs.
20. Water for drinking and cleaning.
21. Scorecards.
22. Master score sheet.
23. Armorers tools and cleaning equipment for weapons.
24. Brooms, shovels, and other cleaning supplies and equipment.
25. Tables and chairs, if needed.
26. Target accessories.
27. Fire extinguishers.
28. Tarp, stakes, and rope to cover the ammunition.
29. Toilet paper.
30. Spare weapons and repair parts as needed.
31. Tow bar and slave cables for vehicles.
32. Fuel and oil for vehicles and target mechanisms.

5. Section V. Determine Available Resources.

1. Fill personnel spaces.

2. Keep unit integrity.

3. Utilize NCOs.

4. Coordinate with supporting organizations:

   - Ammunition.
   - Transportation.
   - Training aids.
   - Medics.
   - Weapons.
   - Other equipment.

6. Section VI. Foolproofing.

1. Write an overall lesson plan for the range.

2. Organize a plan for firing:

   - Determine range organization.
   - Outline courses of fire to be used.
   - Have fire commands typed for use on the range.
   - Set rotation of stations.

3. Rehearse concurrent training instructors and assistants.

4. Brief radio telephone operator on unique range control radio procedures.

5. Brief and rehearse reporting NCO on range operation and all his duties.

6. Collect and concentrate equipment for use on the range in one location.

7. Obtain training aids.

8. Pick up targets from range warehouse, if required.

9. Report to range control for safety briefing (if required) and sign for any special items.

10 Publish Letter of Instruction:

   - Uniform of range and firing personnel (helmets and earplugs).
   - Mode of transportation, departure times and places.
   - Methods of messing to be used.
   - Any special requirements being placed on units.

7. Section VII. Occupying The Range And Conducting Training.

a. Occupy The Range.

1. Request permission to occupy the range.
2. Establish good communications.
3. Have designated areas prepared:
   - Parking.
   - Ammunition point.
   - Medical station.
   - Water point.
   - Concurrent training.
   - Mess.
   - Helipad.
   - Armorer.
4. Inspect range for operational condition.
5. Raise flag when occupying or firing according to the local SOP.
6. Check ammunition to ensure it is correct type and quantity.
7. Ensure range personnel are in proper uniform and the equipment is in position.
8. Receive firing units.
9. Conduct safety checks on weapons.
10. Check for clean, fully operational weapons.
11. Conduct safety briefing (to include administrative personnel on range).
12. Organize personnel into firing orders (keep unit integrity if possible).
13. Request permission to commence firing from range control.

b. Conduct of Firing:

1. Are communications to range control satisfactory?
2. Commands from tower clear and concise?
3. Range areas policed?
4. Ammunition accountability maintained?
5. Master score sheet updated?
6. Personnel accountability maintained?

7. Vehicles parked in appropriate areas?

8. Air guard on duty and alert?

9. Personnel in proper uniform?

10. Earplugs in use?

11. Troops responding properly to commands?

12. On-the-spot corrections being made when troops use poor techniques or fail to hit the target?

13. Conservation of ammunition enforced?

14. Weapons cleared before they are taken from the firing line?

15. Personnel checked for brass or ammunition before they leave the range?

6. Anyone standing around not involved in training or support?

8. Section VIII. Closing Of Range.

1. Close down range according to the local SOP.

2. Remove all equipment and ammunition from range.

3. Police range.

4. Re-paste and resurface targets as required by range instructions.

5. Perform other maintenance tasks as required by local SOP.

6. Request a range inspector from range control when ready to be cleared.

7. Submit after-action report to headquarters.

8. Report any noted safety hazards to proper authorities.

ANNEX C

SAMPLE LIVE FIRE EXERCISE OPERATIONS ORDER

OPORD 03-07 (Squad Defensive Live Fire Exercise)

References.

a. Map Series: (Fort Bragg East Map, Series V742S, 1:50,000)
b. FM 7-1, Battle Focused Training
c. Range 51 Standing Operating Procedures
d. FM 7-8, The Infantry Rifle Platoon and Squad
e. Fort Bragg Regulation 350-6
f. FM 7-10, The Infantry Rifle Company
g. FM 7-0, Training the Force

Time Zone Used Throughout the order: Romeo (local)

Task Organization:

HHC, 1st COSCOM (-)
HHC, 2nd CMMC (-)
HHD, 330th Transportation Battalion (MC)(-): OPCON

C-1. Situation.

a. Enemy Forces. Terrain and Weather. Terrain is composed of dense coniferous and intermediate deciduous vegetation and intermediate streams which will flood during times of intense precipitation. In addition, rolling hills and deep ravines will hinder cross-country wheeled vehicle movement. Weather is composed of warm, sunny days, and mild, clear nights. Weather data is as follows:

BMNT: 0552 Sunrise: 0649 Sunset: 1945 EENT: 2042
Moonrise: 0635 Moonset: 1850 %Illumination: 3
Principle Wind Dir: NE AVG Wind Speed: 4 knots
% Chance Precipitation: 33

b. Enemy Forces.

(1) Composition. Aragon Liberation Front is composed of one infantry brigade with three SPF companies. Primary threats in Corps rear area are the SPF companies that will operate in 6 – 12 personnel squads. These squads are armed with 9MM pistols, AK-74 5.56MM assault rifles, RPGs, and SVD 7.62MM sniper rifles. These squads could also employ a mix of demolition and indirect fire weapons.

(2) Disposition. The Aragon SPF companies are distributed throughout the Corps rear area and have set up an estimated 75 weapons and supply caches. The teams are assigned an AOR in which to conduct actions against Corps units and will resupply and rest at the caches every three or four days.

(3) Expected Course of Action. Typical operations in the Corps rear area will consist of SPF squads conducting small unit direct fire actions on critical mission essential vulnerable areas (MEVA) and command and control (C2) nodes throughout the rear area. It is possible for a company sized element to conduct a direct action against one or more basecamps or base clusters dependent on the small unit affects on Corps rear area operations.

(a) Friendly Forces. On order, 1ST COSCOM assigned and attached units, will deploy, establish and execute combat service support operations to provide comprehensive logistical support to forces assigned, attached or under the operational control of the XVIII Airborne Corps while conducting operations in Aragon. On order, support NEO and the processing of EPWs. On order, transition CSS operations to follow-on forces and re-deploy.

(b) Attachment and Detachments. See task organization

C-2. Mission. On 22 Sept 03 TSB (-) deploys to Log Base Mack vicinity of PU 72308630 (Range 51) in order to conduct a Squad Defensive Live Fire to enhance both leader and soldier ability to conduct and maintain a unit's sector of defense. After successful completion of the Squad Defensive Live Fire, the TSB redeploys, recovers, and prepares to receive follow on missions.

C-3. Execution.

a. Commander's Intent

(1) Purpose. To conduct a safe and realistic defensive live-fire exercise. This will be completed through thorough planning, training, and rehearsals. Leaders need to be competent and confident to be able to effectively lead soldiers during training exercises and in combat. I want Company Commanders to personally verify that their squads have met the standard in each of the tasks listed in Annex D of this order. Safety is paramount throughout all stages of this exercise and will be emphasized at all levels of leadership. Success is mission accomplishment and the safe return of 100% of all soldiers and equipment.

(2) Endstate. All soldiers are safely trained to standard, leaders are confident that they can deploy anywhere in the world; establish a unit defense, defeat an enemy level I/II threat and then re-organize to continue their next mission.

b. Concept Operations. This exercise will be conducted in three (3) phases: Phase I – SDFLX Train-up/soldier certification, Phase II – SDFLX Execution, and Phase III – Recovery.

(1) Phase I (SDLFX Train-up/soldier certification)(20 AUG-26 SEPT): This phase begins when squads initiate planning and conduct actual train-up for the SDLFX. During this phase your unit's designated squads will focus their STT on the critical tasks required to execute the collective task "Defend Unit Area" and individual tasks listed in the Individual soldier certification sheet (ANNEX D). This phase ends when soldiers are certified on individual tasks and are familiarized with their assigned weapon prior to executing the SDFLX during 22–26 SEPT 03.

(2) Phase II (SDLFX Execution)(22-26 SEPT 03): This phase begins upon squads arrival to range 51. During this phase units designated squads will conduct a blank fire exercise and AAR prior to conducting the live fire exercise. This phase ends when each of your respective squads have successfully completed the SDLFX.

(3) Phase III (Recovery): This phase begins upon completion of each unit's SDLFX. During this phase units designated squads will conduct recovery operations IAW with unit SOPs and submit applicable closure and sensitive items accountability reports to the TSB Command group and S3 upon their return from the range. This phase ends when all unit equipment, weapons, and personnel have been recovered IAW with Units SOPs.

c. Tasks to Subordinate Units

(1) TSB S2/3

(a) Coordinate for training areas for the SDLFX.

(b) Request for Live and Blank Ammunition to support SDLFX based on request from units.

Coordinate for medical (FLA) support from 22 – 26 SEPT 03.

(c) Provide one O/C to conduct external evaluation of each squad and facilitate the squad's progression throughout the exercise 22-26 Sept 03.

(d) Provide Range OIC and serve as the overall site command and control 22-26 Sept 03.

(e) Conduct a formal risk assessment and brief assessment at squad in-briefs. Update as necessary.

(f) Coordinate with TSB S4 and TASC to provide six claymore mine training aids.

(g) Coordinate with HHC, 1st COSCOM supply to provide range box with engineer tape, CLP, cleaning rods, earplugs, and so on.

(h) Oversee field ASP operations 22-26 Sept 03.

(2) TSB S4

(a) Provide 150 MREs to support the range detail for the duration of the training.

(b) Request 25 additional sets of body armor through CIF.

(3) Commander, HHC, 1st COSCOM

(a) Provide one O/C in the grade of E7 or above to conduct external evaluation of each squad and facilitate the squad's progression throughout the exercise 22-26 Sept 03.

(b) Provide, train-up, and certify three squads of soldiers to participate in the SDLFX.

(c) Provide one NCO and two soldiers to **RUN** the field ASP operations during the period 22-26 SEPT 03, preferably the NCO that draws the ammo from the ASP.

(d) Provide 2 ammo NCOs, 2 ammo drivers, and 2 vehicles with appropriate placards to draw and transport ammo. Ammo will be drawn from the ASP on 19 Sept 03 and stored in the AHA. Ammo will be picked up from the ammunition holding area on 22 Sept 03 and transported to Range 51. Two separate vehicles are required due to claymores not being transported with the rest of the ammo/pyrotechnics. **The vehicle transporting the claymores must have an armed guard; M16 with three round magazine.**

(e) Provide and set up field ASP site to include: 2 SICCUP tents, 2 chairs, 2 tables, fire extinguisher, and enough concertina wire to encircle both SICCUP tents. Set-up needs to be complete NLT 100022Sept03.

(f) Provide 31 sets of Body armors.

(g) Provide one NCO and two soldiers to guard equipment overnight 24 and 25 Sept 03.

(4) Commander, HHC, 2nd CMMC

(a) Provide one O/C in the grade of E7 or above to conduct external evaluation of each squad and facilitate the squad's progression throughout the exercise 22-26 Sept 03.

(b) Provide, train-up, and certify ten squads of soldiers to participate in the SDLFX.

- Provide two safeties in the grade of E6 or higher 22-26 Sept 03.

- Provide vehicle mounted radio and operator to serve as secondary means of communication with range control and medevac if necessary 22-26 Sep 03.

- Provide and set-up In-brief/AAR facility to include: a minimum of 15 chairs, one general purpose (GP) medium tent, and sand table already constructed to depict range 51 and its immediate surroundings. Set-up needs to be complete NLT 100022SEPT03.

- Provide one NCO and two soldiers to guard equipment and ammunition overnight 22 and 23 Sept 03.

(5) Commander, HHD, 33Oth TC (MC)

(a) Provide Tower Operator in the grade of E6 or above 22-26 Sept 03.

(b) Provide, train-up, and certify one squad of soldiers to participate in the SDLFX.

(c) Provide two safeties in the grade of E6 or above 22-26 Sept 03.

(d) Provide one water buffalo and maintain with ice and potable water 22-26 Sept 03.

d. Coordinating Instructions:

(1) All squad leaders must confirm that personnel completed the TSB SDLFX certification at the time of in-brief.

(2) Units will ensure all weapons systems have serviceable blank adapters with extras on hand. Headspace/timing gauge required per TM.

(3) Each unit will provide their own unit armorer while one of their squads is on the range.

(4) Each unit will supply their squads with their own internal communications; minimum requirement of one FM radio.

(5) Units will ensure each squad deploys with 2 MREs per soldier.

(6) All areas requiring set-up will be complete by 100022Sept03

(7) All detailed personnel (safeties, O/Cs, ammo detail, tower operator, radio operator, and so on will be under the operational control (OPCON) of the TSB S3 and perform their duties 22-26 Sept 03.

(8) Each squad will have a minimum of one combat lifesaver with aid bag.

(9) Units will ensure squads deploy with tripod and Traverse and Elevation (T&E) mechanism for firing the MK19.

(10) Each unit will provide sufficient cleaning kits for assigned weapons.

C-4. Service Support.

a. Class I and Water. HHD, 330th MCB will provide and maintain a water trailer each day the range is occupied.

b. Ration Cycle: M-M-A. Units will ensure each member of their squads deploy with two MREs.

c. Class II. Body armor will be provided to the squads on site.

d. Class III. Squads will deploy with at least ¾ tank of fuel.

e. Class V. Basic load will be issued to the teams on the range.

f. Class VIII. Each Squad will deploy with a minimum of one combat lifesaver qualified personnel with aid bag. Units will ensure combat lifesaver bags are filled with 100% of required content. FLA will be on site.

C-5. Command And Signal.

a. Command. During SDLFX – Range OIC, RSO, normal unit command structure.

b. Signal. Current SOI is in effect.

c. Timeline (sample):

Unit 1	Unit 2	
0800 – 0900	0800 – 0900	Movement to range
0900 – 0945	0900 – 0945	Range orientation/safety briefing Key leader terrain walk
0945 – 1030	0945 – 1030	Occupy AA/construct sand table
1030 – 1100	1030 – 1100	Issue OPORD
1100 – 1200	1215 – 1315	Issue ammo and pyrotechnics
1200 – 1215	1315 – 1330	Move to defensive positions
1215 – 1330	1330 – 1445	Admin crawl/walk phases (with blanks)
1330 – 1400	1445 – 1515	Down load unexpended ammo and pyrotechnics (transition for live / ammo shakedown)
1400 – 1445	1515 – 1600	Conduct AAR
1445 – 1500	1600 – 1630	Upload live ammo/pyrotechnics (or blank for retraining)
1500 – 1515	1630 – 1645	Move to defensive positions
1515 – 1630	1645 – 1800	Run phase (with live)
1630 – 1700	1800 – 1830	Down load unexpended ammo and pyrotechnics (transition for departure / ammo shakedown)
1700 – 1745	1830 – 1915	Conduct AAR
1800 – 1900	1915 – 2015	Police range

Events will be trained to standard, not time limitations. The time required to train an event will vary based on METT-TC factors and training proficiency of the unit.

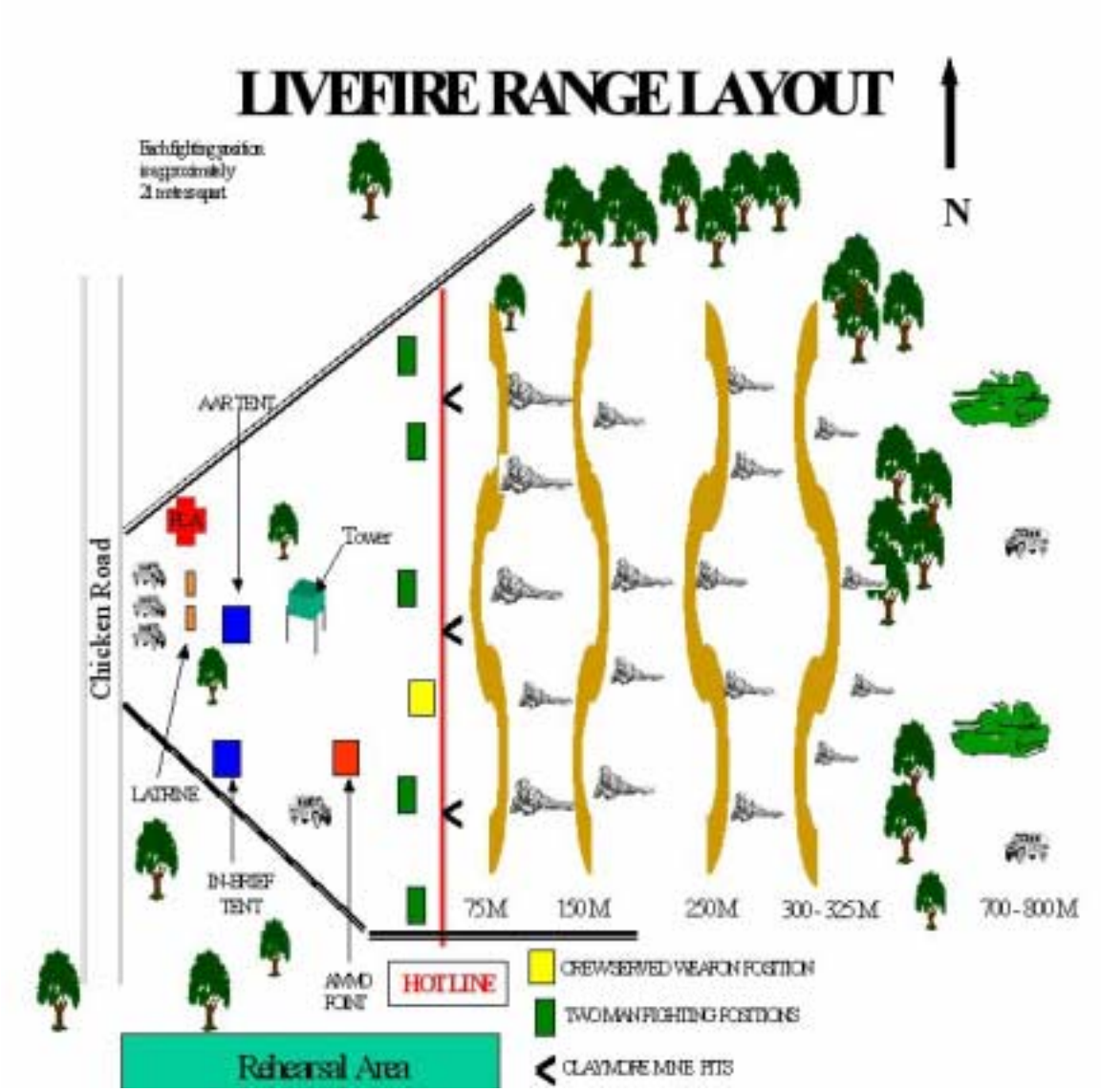
ACKNOWLEDGE:

I. M. A. WARFIGHTER
LTC

ANNEX D

SAMPLE LIVE FIRE LAYOUT

Example illustrations of PDLFX engagement areas/perimeter sketches should be prepared and included in the operations order.



APPENDIX C

LIVE FIRE EXERCISE CHECKLIST

Officers in charge, range safety officers, and unit trainers should use the following checklist prepare for and conduct live-fire training. The five-part checklist is notional; it should be supplemented by local range regulations and SOPs.

Part I. Preplanning Factors

A. Mission analysis

1. Units firing on the range

   Unit(s) _____

   Number of soldiers _____

2. Weapons and course/table to be fired

   Weapon(s) _____

   Course/table _____

3. Range requested

   Range name/number _____

4. Date of scheduled operation

   Date(s) _____

5. Ammunition requisition

   Type(s), quantities required _____

   Date(s) requested _____

6. Attend range-control safety briefing

   Date _____

7. Targets ordered

   Date _____

Remarks	Y	N	NA

B. Administrative requirements

1. Sufficient ammunition has been requested

2. Range facilities are adequate to conduct desired training

3. Sufficient time has been scheduled to complete training

4. Firing periods coordinated with Range Control

5. Range-scheduling conflicts have been resolved

Remarks	Y	N	NA

C. Personnel requirements

1. OIC
   attended safety course briefing
   completed unit certification

2. RSO
   attended safety course briefing
   completed unit certification

3. Assistant safety officers

4. Medical support

5. Ammunition detail

6. Assistant instructors (Ais)

7. Range guards

8. Range/target operator

9. Maintenance personnel

10. Target detail

D. Equipment requirements

1. Range packet/clearance form received

2. Safety fan diagram/range overlay on hand
   firing points

   firing lanes

   firing boxes

   target locations

3. Radios

4. Range flag and light (night firing)

5. Vehicles flag sets/lights

6. Safety paddles

Remarks	Y	N	NA
7. Medical support equipment ambulance or designated vehicle			
litter			
backboard			
aid bag, complete			
other equipment prescribed in local guidance			
8. Earplugs			
9. Master score sheet			
10. Scorecards			
11. Armorer's tool kit			
12. Weapons-cleaning equipment			
13. Fire extinguishers			
14. Repair parts/spare weapons			
15. Training publications			
16. Report folder			
17. Life saver procedures			
18. Toilet paper			

Part II. Range Occupation

A. Establish communications with Range Control			
B. Prepare designated areas			
1. Ammunition point			
2. Medical station			
3. Concurrent training			
4. Parking			
5. Armorer			
6. Water point			
7. Mess			
C. Range OIC brief			
1. RSO			
2. Safety assistants			
3. Assistant Instructors			
D. Conduct range inspection to ensure targetry is present and operational			
E. Verify impact area clear of unauthorized personnel			
F. Raise range flag			
G. Check ammunition			
No live-fire ammunition on nonfiring range			
H. Receive firing units			
I. Range guards briefed and posted			
J. Conduct safety checks on weapons			
K. Conduct safety briefings			
1. Dud orientation			
2. Noise hazard briefing			
3. Misfire procedures			
L. Organize personnel into firing orders (keep unit integrity, if possible)			
M. Medical support is present or			
1. Medics have communications with treatment facility			
2. Medics have strip map form range/training area to treatment facility			

Remarks	Y	N	NA
3. Medics (off-site) have communications with range/training area			
4. Medics (off-site) have strip map to range/training area			
5. Medics, in coordination with Range OIC, select and clear air evacuation site near the range			
N. For tanks and BFVs, inspect DA Form 2408-4 (Weapon Record Data) for each main gun to be fired.			
O. Request clearance from Range Control to commence firing			

Part III. Conduct of Firing Operations

Remarks	Y	N	NA
A. Communication maintained w/Range Control IAW local SOP			
B. Ammunition accountability maintained			
C. Personnel accountability maintained			
D. Guards on duty/alert			
E. Earplugs in use			
F. Weapons cleared before departing firing line on small-arms ranges			
G. Surface danger zone is monitored to ensure it remains clear			
H. Weapon systems are cleared and checked during temporary suspensions of firing			
I. Cease-fire is called when unsafe act is observed or reported or when communication with Range Control is lost			
J. Handle misfires, hangfires, or cookoffs IAW pertinent technical manuals			

Part IV. Postfiring Operations

Remarks	Y	N	NA
A. All weapons cleared before leaving range or training facility			
B. Conduct brass/ammunition check			
C. Close down range IAW local SOP			
D. Firing status of range or vehicles reported to Range Control			
E. Conduct police of range			
F. Perform maintenance tasks as required by local SOP			
G. Request range clearance from Range Control			
H. Debrief unit personnel			
I. Submit after-action report IAW local SOP			
1. Number of rounds fired by caliber			
2. Throughout			
3. Number and approximate location of unexploded ordnance			
4. Weapons malfunctions			
5. Safety hazards			
6. Communications losses			

Part V. Laser Operations

Laser devices may only be used on those ranges that the installation commander has approved and established for such use. The following checklist is used in planning for and conducting laser operations.

Remarks	Y	N	NA
A. Verify survey of proposed lasing and target area			
B. Right and left laser safety limit stakes designate right and left limits of lasing at local training areas			

Remarks	Y	N	NA
C. Warning signs and barricades posted to prevent unauthorized entry			
D. Warning signs posted at entrance to the range			
E. Verify impact area clear of unauthorized personnel			
F. Sweep range area to remove all specular (mirror-like) material prior to lasting			
G. Target materials are non-specular surfaces-cardboard, wood, or lusterless metal			
H. Recommended target areas are free of specular surfaces (glossy foliage, raindrops, and other material objects are not considered peculiar surfaces)			

Remarks	Y	N	NA
I. Laser devices are not lased at specular reflective surfaces			
J. Unprotected personnel are not exposed to either the direct beam or the beam reflected from a specular surface			
K. Personnel within the LSDZ are wearing protective eyewear			
L. Certain laser devices are not used in two-sided tactical exercises			
M. Appropriate laser safety filters are placed in daylight optical devices used to observe targets during lasing			
N. Recommended target areas are free of calm, smooth water and clean ice			
O. Laser safety orientation is provided to all personnel who work or use lasers			

APPENDIX D

SAFETY AND RISK MANAGEMENT

D-1. Procedure. The unit commander conducts risk management and assessment for safety and environmental protection. There are many different techniques for conducting risk management and risk assessment. If a specific technique has been prescribed for your unit, use it instead of this technique. The following procedures can be followed twice; once while focusing on safety and risk management and once while focusing on environmental risk management; however, sometimes it may be more appropriate to consider both areas simultaneously (see Table D-1). FM 100-14, *Risk Management,* contains additional information on safety and risk management.

Table D-1. Safety and Risk Management

Who	Responsibilities
Commander	• Plan and resource for safety. • Establish and enforce safety standards. • Set command climate for safety.
Leaders	• Lead in safety by example. • Minimize the severity and frequency of accidents. • Control safety hazards, including fratricide. • Plan and conduct safe operations. • Train individual and unit safety. • Motivate subordinates to practice safe behavior. • Assess and manage risks.
Individuals	• Take personal responsibility. • Practice safe operations. • Recognize unsafe acts and conditions. • Take action to prevent accidents. • Report unsafe acts and conditions. • Work as a team.

D-2. Steps in the Risk Management Process. See table D-2 for Risk Management Process.

Table D-2. Risk Management Process

LFX Phase	Step	Action
Planning	1	Decide which of the following types of risk assessment planning will be performed: • Hasty. • Deliberate.
	2	Conduct a risk assessment. a. Conduct an operational analysis. • Break the operation down into bite size portions. • Outline the sequence of events, tasks and steps. b. Identify potential hazards. Conduct a preliminary hazard analysis. List the hazards that could occur and result in accidents or damage during the LFX.
		b. Use brainstorming, terrain walks, trial runs, or other techniques to identify hazards. Consider the following: • METT-TC. • Environment (terrain, weather, animal and plant life). • Unit standard of training. • Individual self discipline. • Leadership. c. Assess the risk of each hazard. d. Identify potential risk control options to eliminate or reduce each hazard: • Eliminate the hazard if possible or substitute a less hazardous alternative. • Control the hazard or provide containment or barriers. • Change operational procedures to minimize risk exposure consistent with mission needs. • Train personnel to recognize and properly react to hazards. • Motivate personnel to use effective hazard avoidance procedures. e. List potential risk control options. f. Identify advantages and disadvantages of each option. g. Make risk decisions.

Table D-2. Risk Management Process (continued)

Execution	1	Supervise implementation of controls throughout the LFX. a. Implement or follow controls. b. Monitor controls. c. Assess the effectiveness of controls. d. Modify controls that are not effective. e. Enforce controls.
Assessment	1	Assess the effectiveness of risk management during planning and execution phases.
	2	Take corrective action.

Note: Consult unit or installation safety or environmental protection coordinators for assistance.

APPENDIX E

LIVE FIRE EXERCISE TRAINING RESPONSIBILITIES

E-1. Introduction. This appendix identifies some of the training management personnel and their responsibilities.

E-2. Commander's Responsibility. Live fire training is a unit commander's responsibility, but many personnel have responsibilities to support live fire training.

E-3. All leaders will--

- Be tactically proficient and technically competent.
- Foster a command climate that is conducive to good training.
- Develop and communicate a clear vision.
- Establish effective communication between command echelons.
- Assess Soldier, leader, and unit performance.
- Involve themselves personally in planning, executing, and assessing training.
- Centralize training planning and decentralize training execution.
- Train one level (echelon) down and access two levels down.
- Train all elements to be proficient on their mission-essential tasks.
- Develop and verify their subordinates' task proficiency.
- Provide the resources required for training.
- Protect subordinate unit training from distracters.
- Enforce established training schedules.
- Require their subordinates to understand and perform their roles in training.
- Use risk management procedures for all scheduled training to achieve realistic and safe training while protecting the environment. Conduct risk assessments. Implement risk management control measures.
- Ensure pre-execution and pre-combat checks are completed.
- Demand training standards are achieved. Personally check that planned training is conducted to standard.
- Evaluate training using T&EOs, drills, or task summaries supporting training objectives.
- Ensure training resources are properly used.

- Direct corrective actions to respond to deficiencies identified during the live fire training process.

E-4. Unit Leaders. The unit leaders (of the unit to be trained on the live fire) will--

- Be the primary trainers.
- Account for their Soldiers.
- Know their units' and Soldiers' training needs.
- Plan appropriate time to train tasks to standards.
- Develop expertise in all LFX tasks.
- Ensure live fire training activities (including prerequisite training) are reflected on training schedules.
- Conduct rehearsals.
- Ensure training is conducted to standard.
- Retrain Soldiers and units when standards are not met.
- Be prepared to conduct opportunity training whenever time is available.
- Assist OCs in facilitating the AAR.
- Brief live fire training plans as part of the quarterly (for AC) or yearly (for RC) training briefing.

E-5. Junior Leaders. Junior leaders (junior to the unit leader) will--

- Move Soldiers and units to the training sites.
- Ensure--
    - Soldiers are at the right location, in the right uniform, with the right equipment, at the right time.
    - The number of tasks scheduled to be trained is realistic.
    - Leaders are trained and prepared to train their sections, squads, teams, or crews. They train the trainers.
    - Prerequisite training is completed so that Soldiers' time is not wasted.
    - Prerequisite training for sections, squads, teams, and crews has the right focus and is executed to Army standard.
    - Soldiers are present or accounted for, especially during prime-time training.

- Detailed inspections and checks are conducted prior to execution of training.
- Soldiers are properly motivated and led well.
- Training is conducted to standard and meets the training objectives.

E-6. Exercise Director. The exercise director will--

- Provide command and control of OCs.
- Provide operational control of OPFOR, player customers, and other supporting units or activities in the live fire.
- Orchestrate planning, execution, and assessment of live fire training.
- Plan, schedule, and coordinate live fire training events.
- Use risk management procedures to achieve realistic and safe live fire training while protecting the environment.
- Conduct (or facilitate) a final AAR for the supported unit after completion of a series of live fires.

E-7. Exercise Planners. Exercise planners will--

- Develop battle-focused LFX based on T&EO.
- Ensure the LFX achieves the training objectives. Establish clear and definitive training objectives for each LFX.
- Develop, coordinate, and support plans for live fire training.
- Coordinate requirements early.
- Ensure adequate time is scheduled to repeat tasks not performed to standard the first time.
- Validate live fire training, TSP, and other training materials--
  - After their development or revision.
  - After each LFX.

E-8. Senior OC. The senior OC for the live fire will--

- Ensure live fire OC and leaders understand the doctrine and TTP.
- Ensure the LFX is conducted as designed to facilitate training to the Army standard.
- Follow the tactical and field SOPs for the unit being evaluated.
- Receive the leader's backbrief prior to execution of the live fire.
- Control unit advancement through a live fire and movement to subsequent training sites.
- Ensure events occur at the right time and place as planned by the scenario and schedule.
- Determine outcomes of engagements, fires, obstacles, and support activities.
- Ensure all OC identify major training strengths and weaknesses that occurred during he LFX.
- Evaluate the task proficiency of the unit executing the live fire to the Army standard (in full compliance with doctrine and TTP) and provide feedback to the unit leader using AAR.
- Conduct AAR where needed.
- Direct retraining when the standard has not been achieved.
- Assist in development of the commander's training assessment.

E-9. Unit Leaders, OC, OPFOR. Unit leaders, OCs, and OPFOR will--

- Know how to perform the LFX tasks (master the task).
- Know how to train others to perform the tasks.
- Brief the chain-of-command on their training plans and applies the feedback received.
- Rehearse training the way it will be presented.
- Ensure training is performance-oriented.
- Conduct themselves in a confident manner in front of their Soldiers.
- Know enough to accurately answer their Soldiers' questions.
- Train an assistant who can conduct the training to standard in the primary trainer's absence.
- Know how to set up and conduct an AAR.
- Prepare the resources.
    - Identify and request TADSS.

- Get equipment and materials before the rehearsal.
- Operate the equipment to become familiar with it and check it for completeness and spare parts during the rehearsal.

- Prepare training support personnel.
  - Ensure they understand their roles.
  - Ensure they are equipped and prepared to perform the tasks to standard.
  - Ensure they conduct reconnaissance and rehearsals.
- Prepare the Soldier.
  - Identify the Soldier to be trained.
  - Assess the level of training proficiency for each Soldier (may use pretests).
  - Train any prerequisite tasks or skills first.
  - Motivate Soldiers. (Tell them the tasks to be trained and the expected performance standards. Tell them why the task is important and how it is related to their unit's wartime mission.)
- Provide feedback during AAR.

E-10. LFX Resource Managers. LFX resource managers will--

- Ensure the leader training site, rehearsal area, live fires, and AAR areas are equipped with all the resources needed for training.
- Ensure the live fire replicas (sand table, rock drill) match the terrain of the lane and the tasks to be performed.
- Control movement of units entering and departing the LFX area.
- Control access to the LFX area to ensure that it is free of distracters; no unauthorized personnel or equipment on the lane while the training unit is conducting live fire execution or participating in AAR.
- Ensure the OCs, OPFOR, and training unit have the resources needed to perform their missions on the live fire.

E-11. Commander One-Level Above Unit. The commander one level above the unit to be trained by the LFX will--

- Assess the unit's METL and corresponding capabilities.
- Approve task selection for the LFX.
- Monitor exercise planning IAW FM 7-0, *Training the Force* and FM 7-1, *Battle Focused Training.*
- Provide and coordinate unit resource requirements.
- Ensure junior leaders understand tasks.
- Assist in preliminary training for junior leaders.
- Monitor the unit as it proceeds through the LFX.
- Retrain the unit.
- Issue orders, based on higher-level orders.
- For RC units, ensure the unit dedicates time on scheduled inactive duty training weekends for training on selected tasks in support of live fire training.

E-12. Commander Two-Levels Above Unit. The commander two levels above the unit to be trained by the LFX will--

- Ensure exercises and prerequisite activities are scheduled during long-range planning.
- Approve the METL tasks or supporting tasks to be trained.
- Ensure leader and Soldier training takes place.
- Train and verify leaders' and evaluators' proficiency.
- Arrange for trained OCs who have had their task proficiency verified.
- Provide resources available at his level.
- Issue orders.
- Monitor training.
- Assess training.

GLOSSARY

AA	assembly area
AAR	after action review
AC	active component
AHA	ammunition holding area
AOR	area of responsibility
ASP	ammunition supply point
ATK	attack
BMNT	beginning morning nautical twilight
BMP	Boyevya Mashina Pyekhoty (Soviet infantry fighting machine)
BN	battalion
BOS	battlefield operating systems
BRDM	Boyevaya Razvedyualeynaya Doeornaya Meshing(Soviet combat reconnaissance patrol vehicle
BTRs	Brongetransporter (Soviet class of armored vehicles)
CALFE	convoy ambush live fire exercise
CALL	Center for Army Lessons Learned
CAS	close air support
CASEVAC	casualty evacuation
CATS	Combined Arms Training Strategy
CDR	commander
CIF	central issue facility
CLP	cleaner lubricant preservative
CMMC	corps materiel management center
CPL	corporal
CP	command post
CPX	command post exercise
CSS	combat service support
CTC	combat training center
CTT	common task training
C2	command and control
DA PAM	Department of the Army Pamphlet
DD	Department of Defense
DTG	date time group
DVE	driver vision enhancer
EA	engagement area
EENT	ending evening nautical twilight
EOD	explosive ordnance disposal
EPW	enemy prisoners of war
EXROE	exercise rules of engagement
FBCB2	Force XXI Battle Command/Brigade and Below
FLA	forward litter ambulance
FM	field manual
FPF	final protective fire
FPL	final protective line
FPFL	final protective fire line
FRAGOs	fragmentary orders
GP	general purpose
GPS	global positioning system
HAZMAT	hazardous materials

HHC	headquarters and headquarters company
HQ	headquarters
IAW	In accordance with
IMT	individual movement techniques
IPR	in process review
IRF	internal reaction force
ITV	in transit visibility
LFX	live fire exercise
LNO	liaison officer
LP	listening post
LZ	landing zone
MEDEVAC	medical evacuation
METL	mission essential task list
METT-TC	mission, enemy, terrain and weather, troops, time, civilians
MILES	multiple integrated laser engagement system
MOA	memorandum of agreement
MOPP	mission oriented protective posture
MRE	mission rehearsal exercise meal ready to eat
MSC	major subordinate commands
MSRT	mobile subscriber radiotelephone
MTO&E	modified tables of organization and equipment
MTP	mission training plan
MTS	movement tracking system
NBC	nuclear, biological, chemical
NCO	noncommissioned officer
NCOIC	noncommissioned officer–in-charge
NE	northeast
NEO	noncombatant evacuation operations
NFA	no fire areas
NFL	no fire lines
NVD	night vision devices
NVG	night-vision goggles
OC	observer/controller
OIC	officer-in-charge
OP	observation post
OPCON	operational control
OPFOR	opposing force
OPORDS	operations orders
OPTEMPO	operating tempo
OVM	on vehicle materiel
PCC	pre-combat checks
PCI	pre-combat inspection
PDF	primary direction of fire
PDLFX	perimeter defense live fire exercises
PE	practical exercise
PIR	priority information requirements
PL	platoon leader
PLGR	precision lightweight global positioning system receiver
PLT	platoon
PMCS	preventive maintenance checks & services

POI	program of instruction
POL	petroleum, oil and lubricants
PSG	platoon sergeant
PZ	primary zone
QRF	quick reaction force
RC	reserve component
	Range control
RP	release point
RPG	rocket propelled grenade
ROE	rules of engagement
R&S	reconnaissance & security
RSO	range safety officer
SAW	squad automatic weapon
SDLFX	squad live fire exercise
SITREPS	situation reports
SMCT	soldier manuals for common tasks
SOI	security operating instructions
SOP	standard operating procedure
SP	start point
SPF	special purpose forces
STP	Soldier training plan
STRAC	Standards in Weapons Training
STT	sergeant time training
STX	situational training exercises
SVD	soviet sniper rifle
TADSS	training aids, devices, simulation and simulators
TASC	training aids support center
TBD	to be determined
TC	training circular
T&E	traverse and elevation
T&EO	training and evaluation outlines
TEWT	tactical exercise without troops
TLP	troop leading procedures
TM	technical manual
TOC	tactical operations center
TSB	troop support battalion
TSOP	tactical standing operations procedures
TSP	training support package
TTP	tactics, techniques, and procedures
USAREUR	United States Army Europe

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